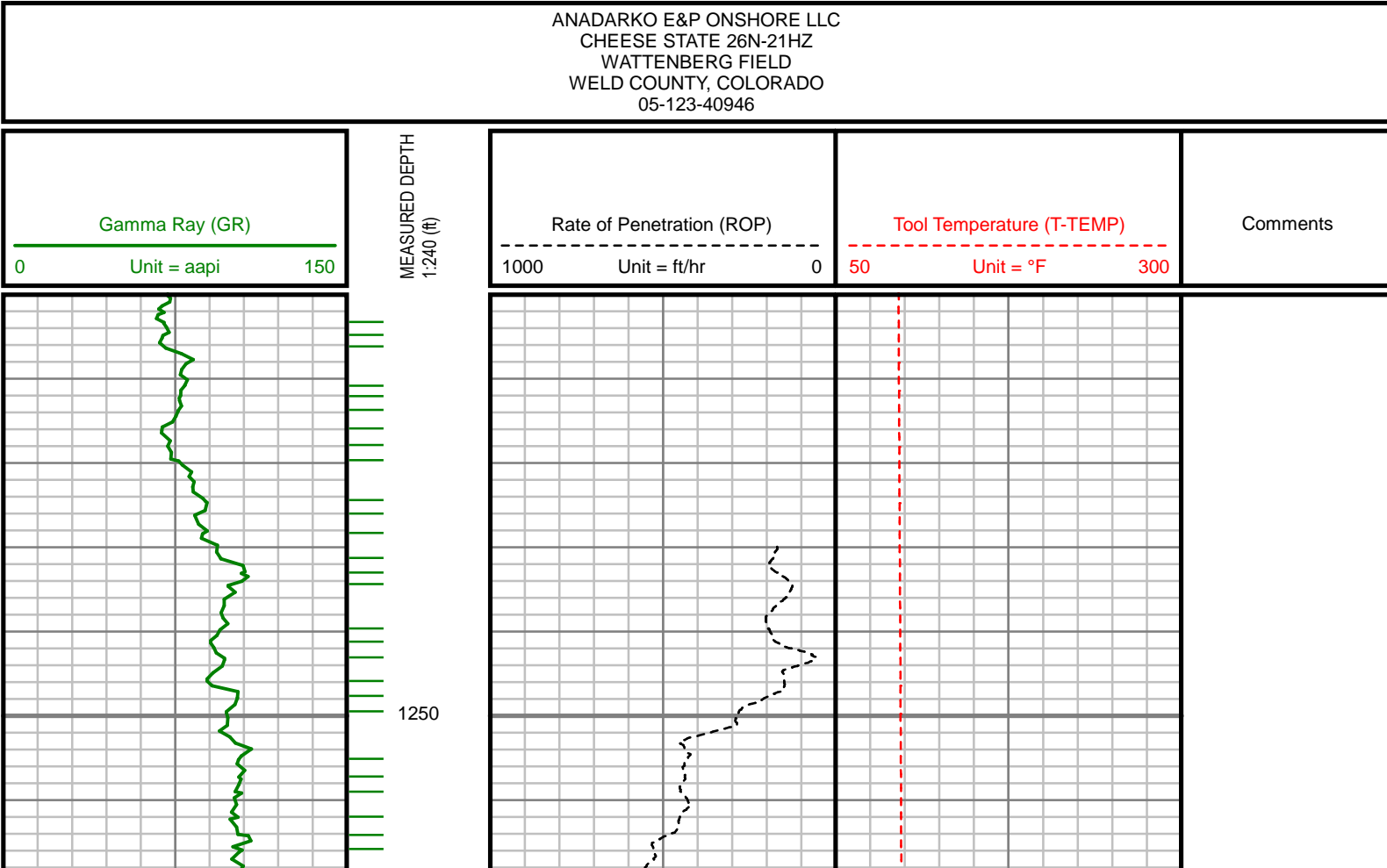
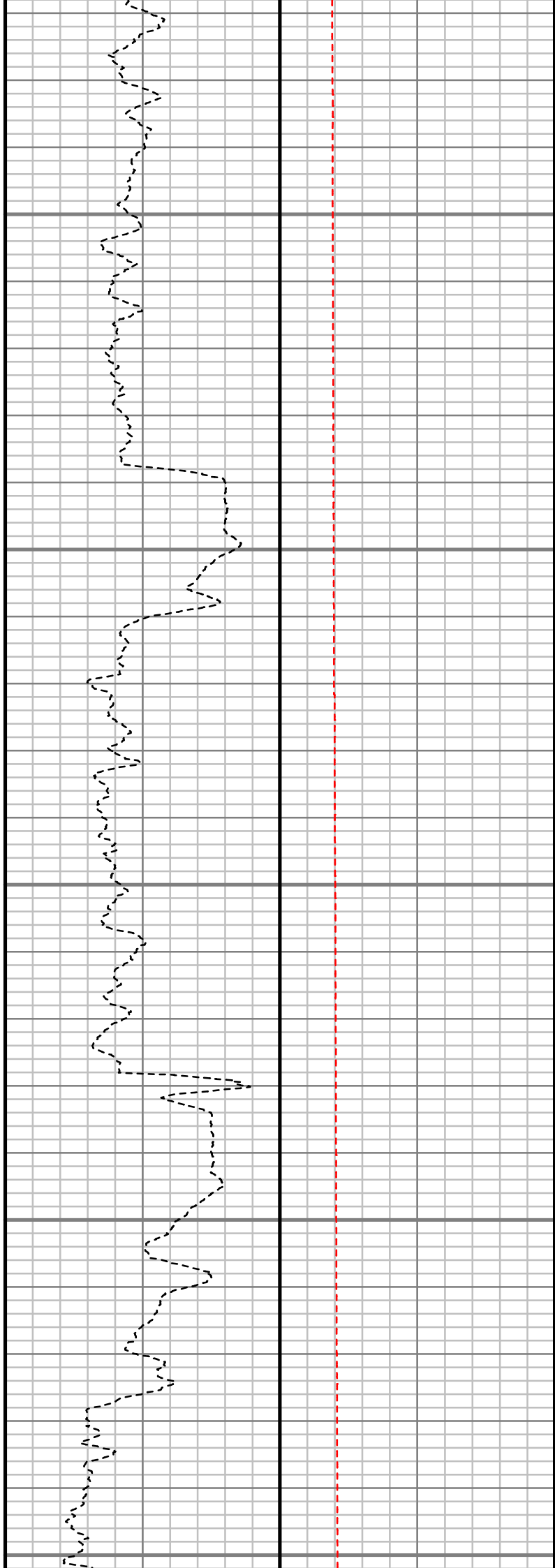
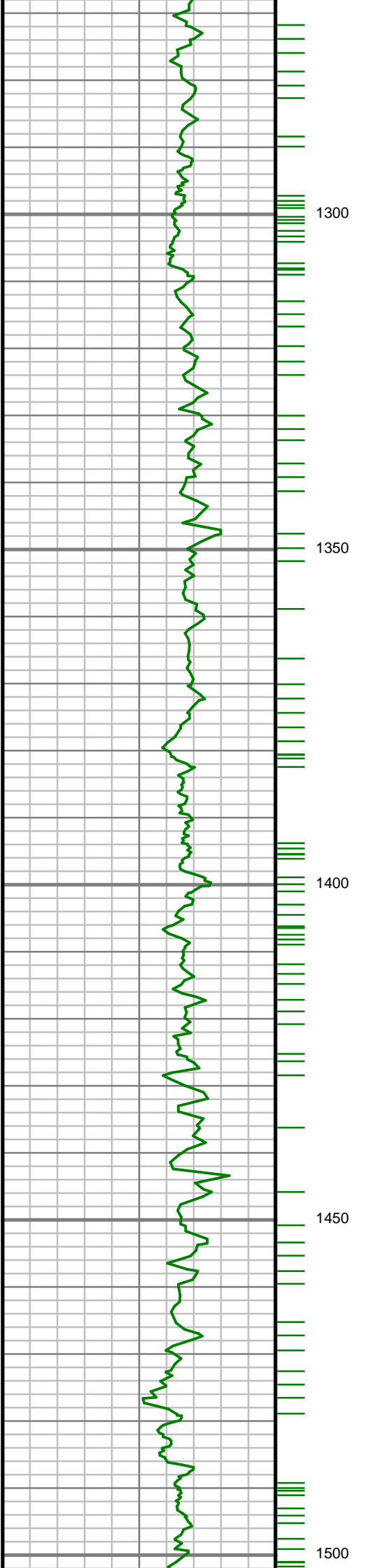




Remarks
ANADARKO E&P ONSHORE LLC PRODUCTION AFE# 2102424
SCIENTIFIC DRILLING INTERNATIONAL JOB# 283689
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
RUN #1: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-386 / CONT = 412 / MWD EYE = 0071 / GAMMA RAY = 1301
BIT TO SENSOR OFFSETS: SURVEY = 57.4 FT. / GAMMA RAY = 48.14 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-329 / CONT = 277 / MWD EYE = 0755 / GAMMA RAY = 1169
BIT TO SENSOR OFFSETS: SURVEY = 56.10 FT. / GAMMA RAY = 46.85 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-329 / CONT = 277 / MWD EYE = 0755 / GAMMA RAY = 1169
BIT TO SENSOR OFFSETS: SURVEY = 56.02 FT. / GAMMA RAY = 46.77 FT.
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION
T-TEMP = TOOL TEMPERATURE

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

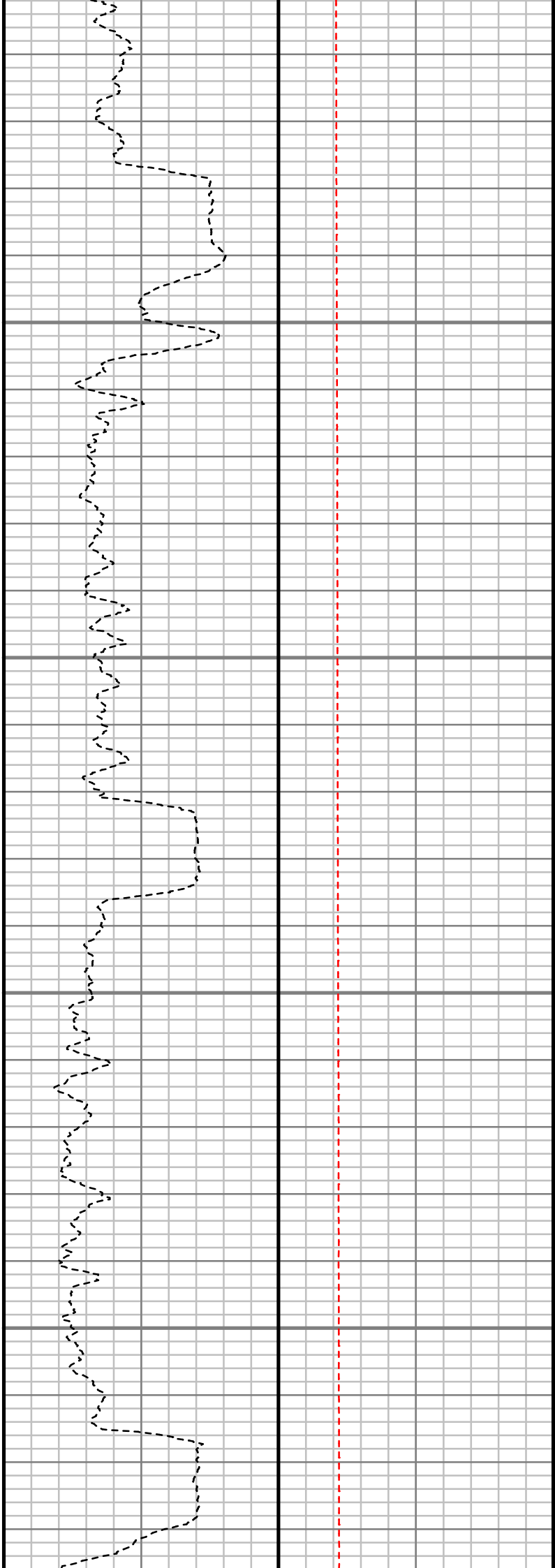
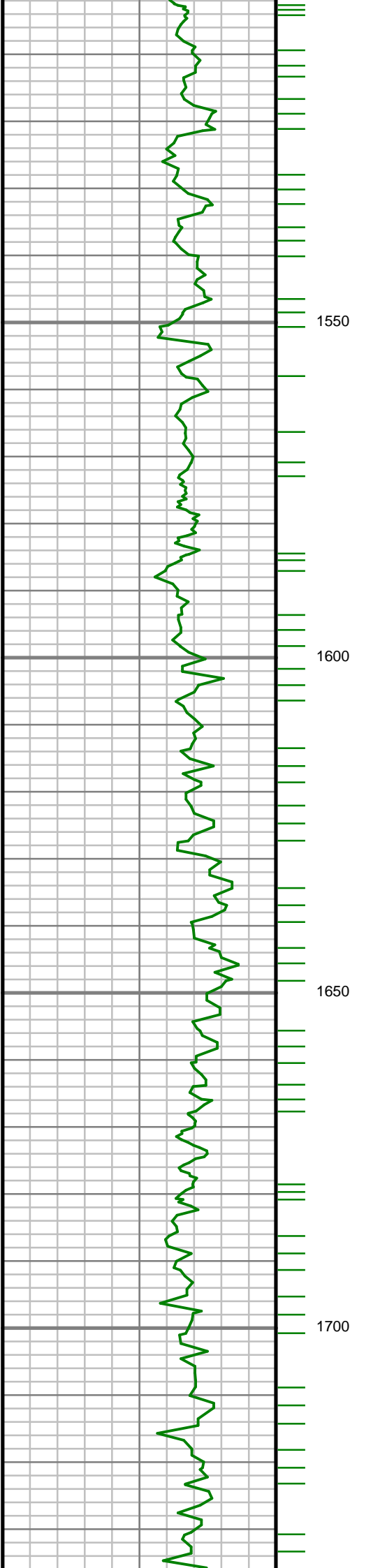




S: 21 MD: 1278.00 ft  
Inc: 5.20 deg Az:  
184.55 deg TVD:  
1275.47 ft

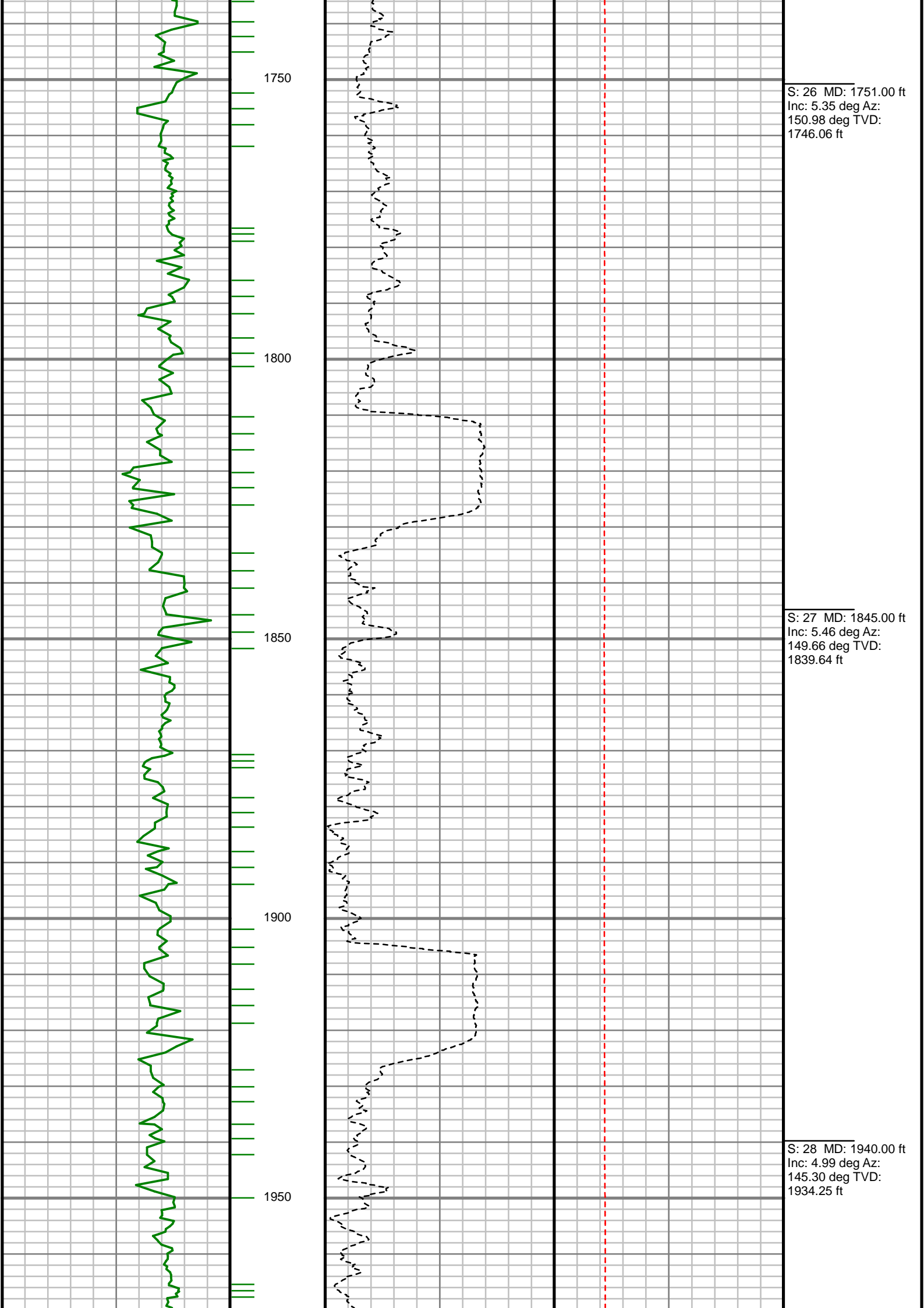
S: 22 MD: 1373.00 ft  
Inc: 5.76 deg Az:  
179.74 deg TVD:  
1370.04 ft

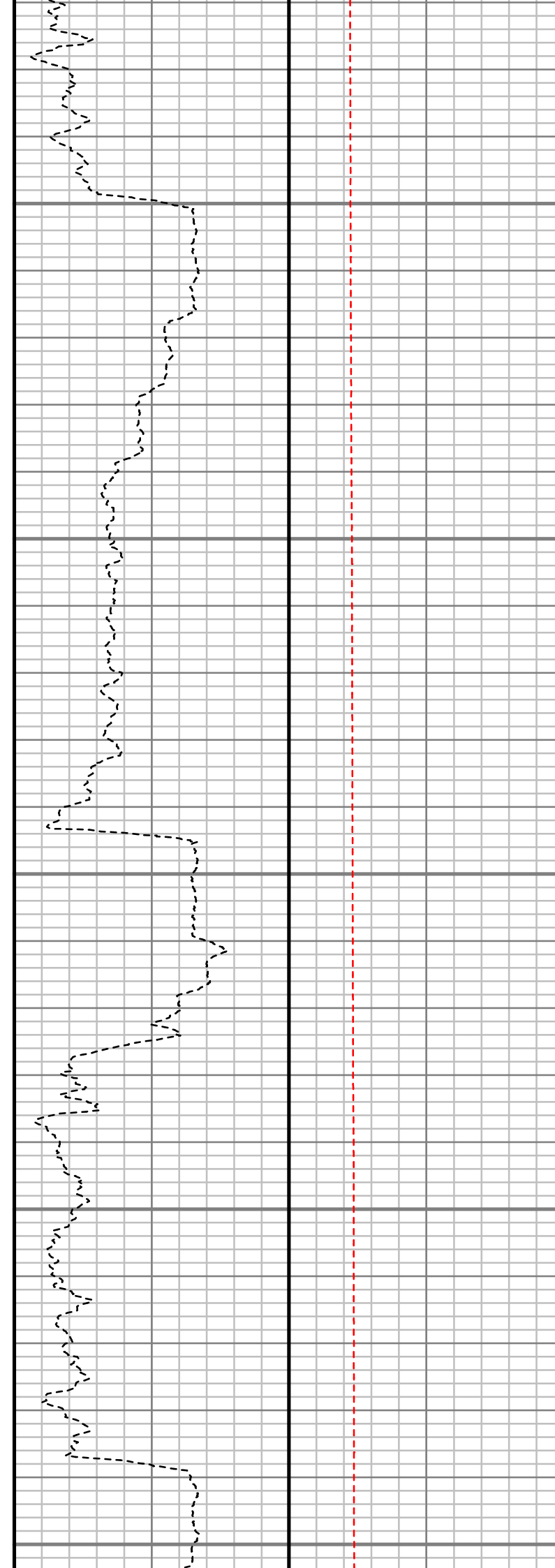
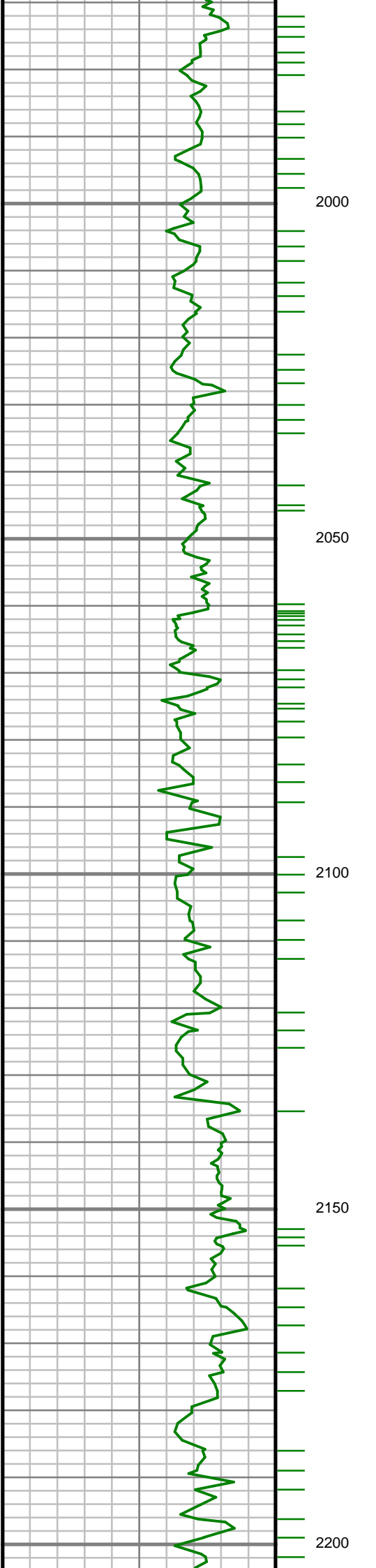
S: 23 MD: 1467.00 ft  
Inc: 6.12 deg Az:  
164.43 deg TVD:  
1463.54 ft



S: 24 MD: 1562.00 ft  
Inc: 6.10 deg Az:  
151.32 deg TVD:  
1558.00 ft

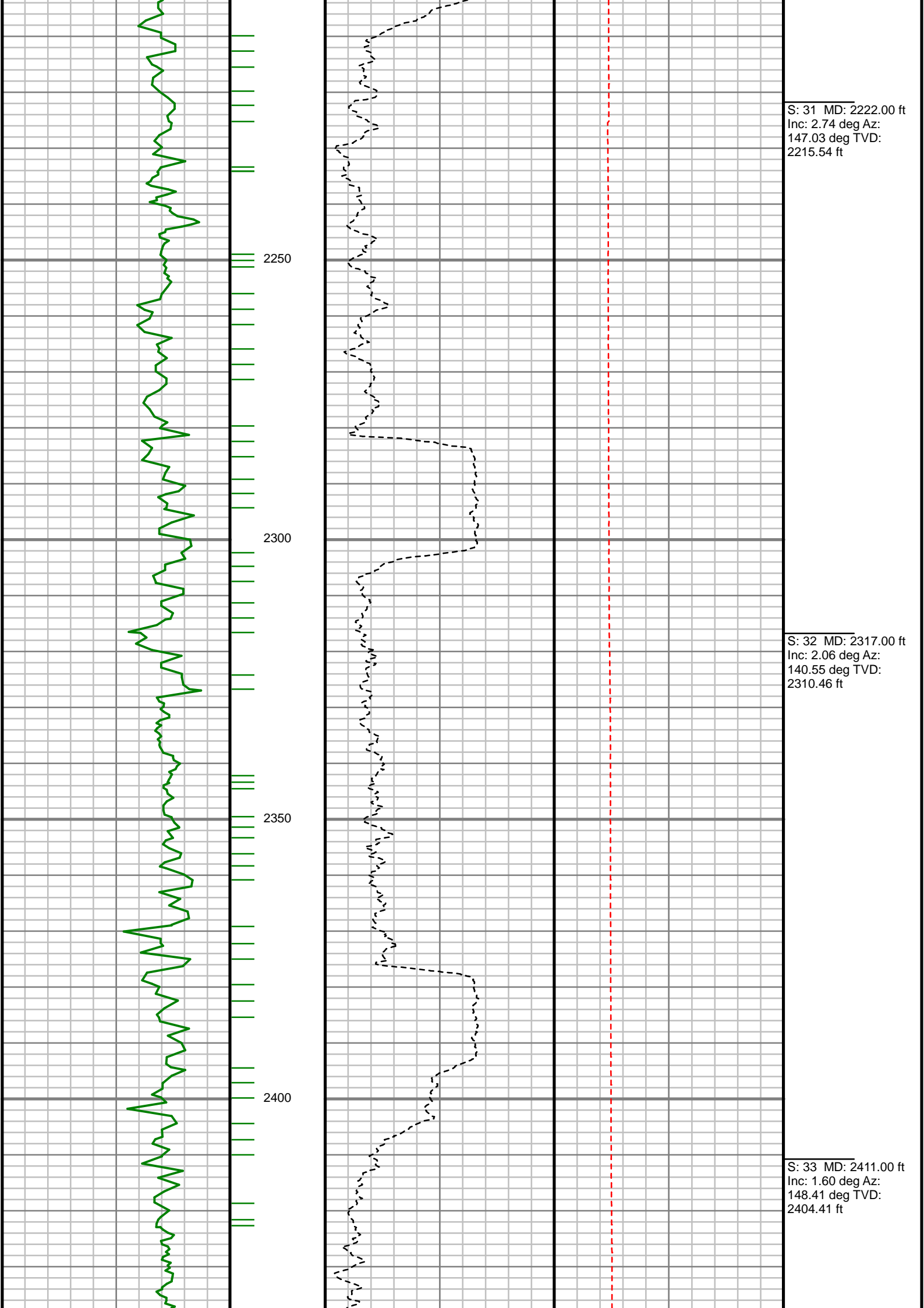
S: 25 MD: 1656.00 ft  
Inc: 5.72 deg Az:  
146.69 deg TVD:  
1651.50 ft





S: 29 MD: 2034.00 ft  
Inc: 5.00 deg Az:  
144.22 deg TVD:  
2027.89 ft

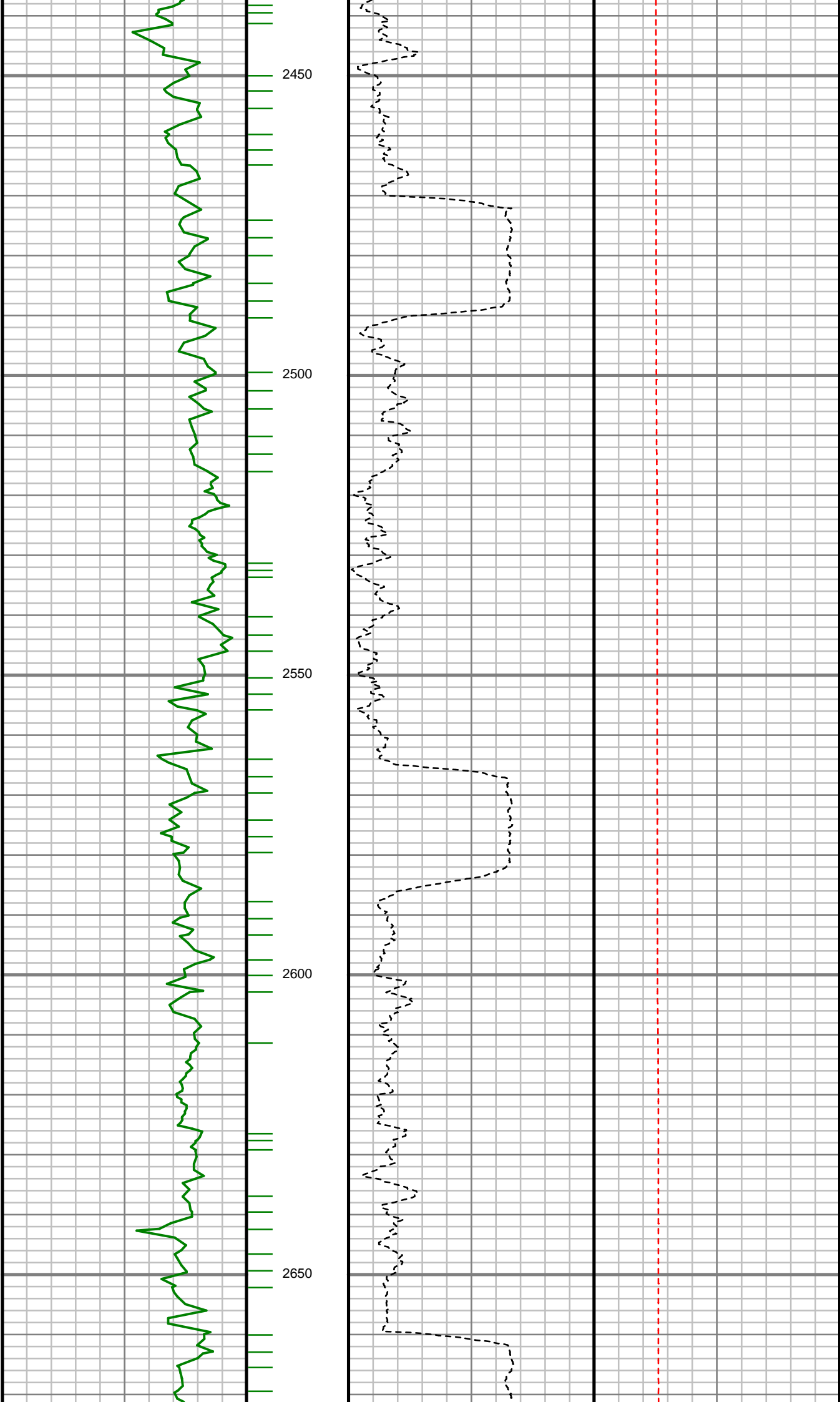
S: 30 MD: 2128.00 ft  
Inc: 2.95 deg Az:  
146.91 deg TVD:  
2121.66 ft



S: 31 MD: 2222.00 ft  
Inc: 2.74 deg Az:  
147.03 deg TVD:  
2215.54 ft

S: 32 MD: 2317.00 ft  
Inc: 2.06 deg Az:  
140.55 deg TVD:  
2310.46 ft

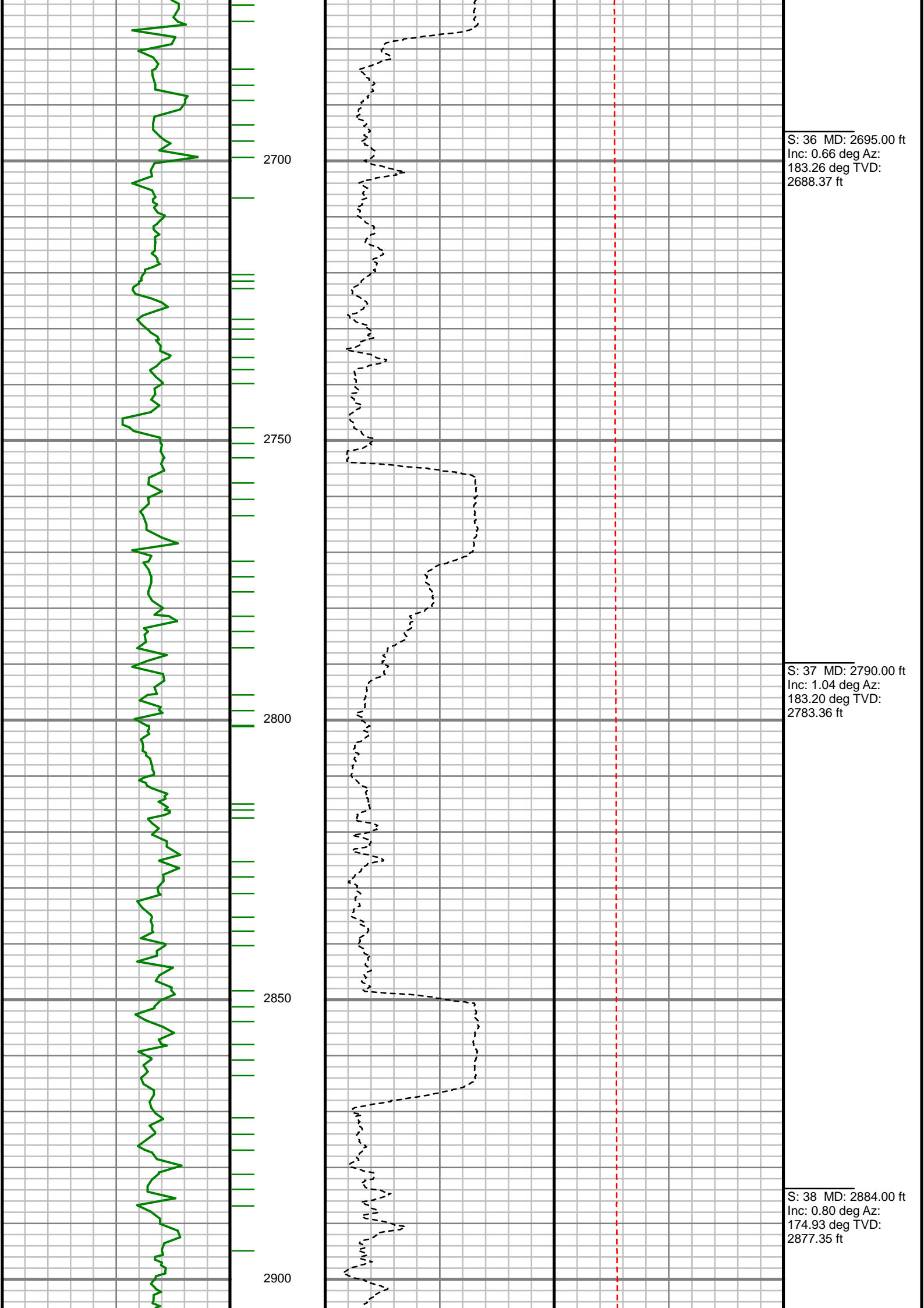
S: 33 MD: 2411.00 ft  
Inc: 1.60 deg Az:  
148.41 deg TVD:  
2404.41 ft

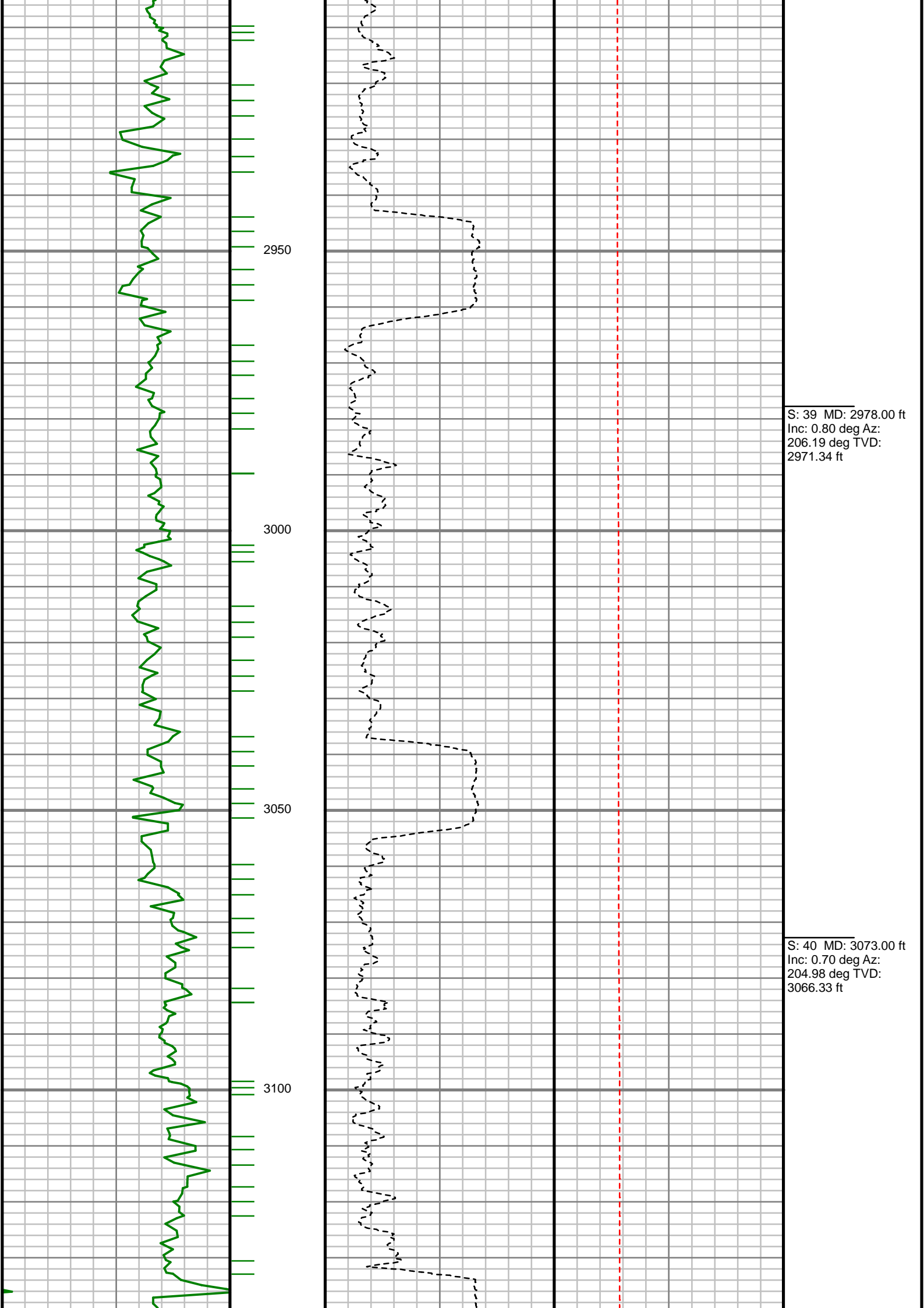


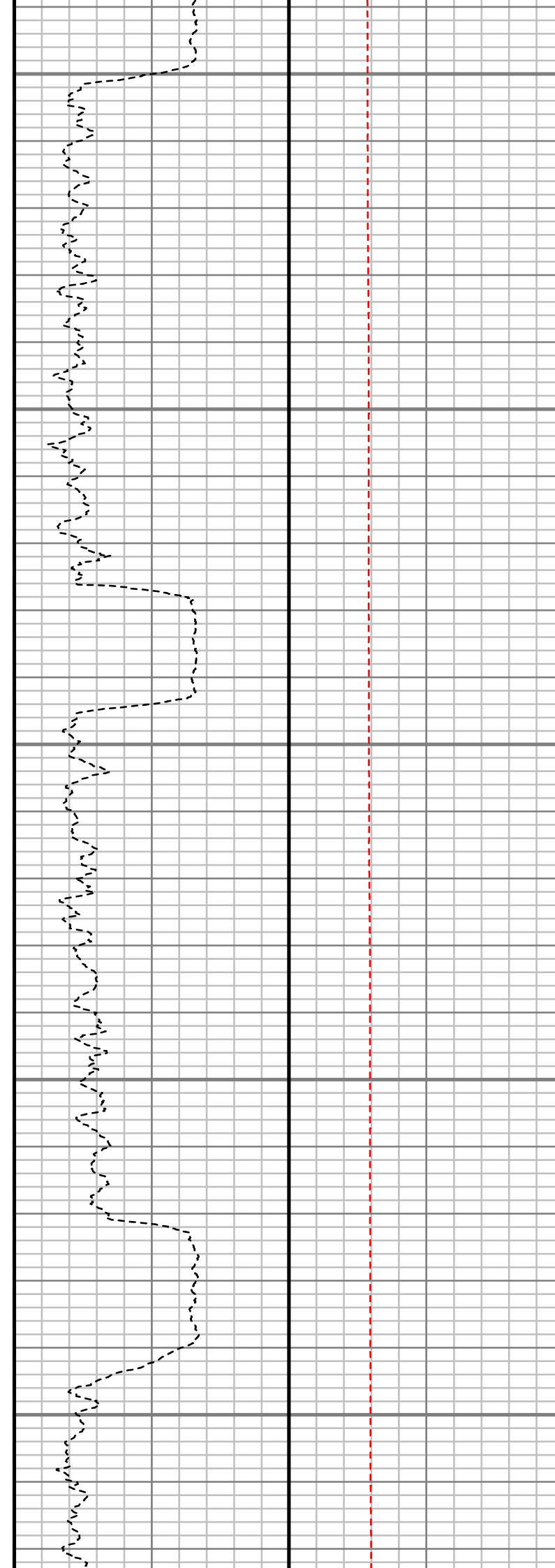
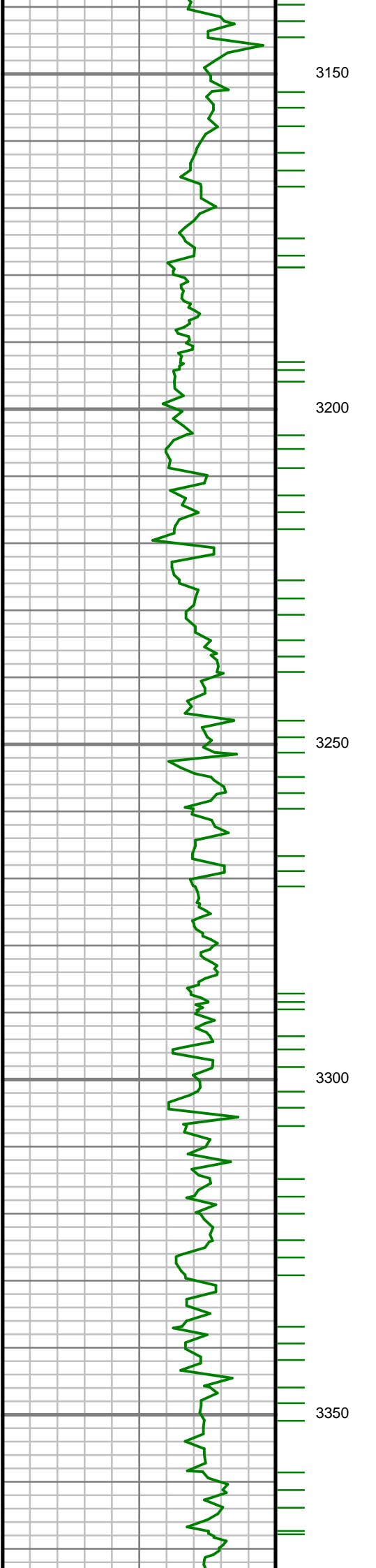
S: 34 MD: 2506.00 ft  
Inc: 0.88 deg Az:  
128.32 deg TVD:  
2499.39 ft

S: 35 MD: 2601.00 ft  
Inc: 0.74 deg Az:  
145.78 deg TVD:  
2594.38 ft





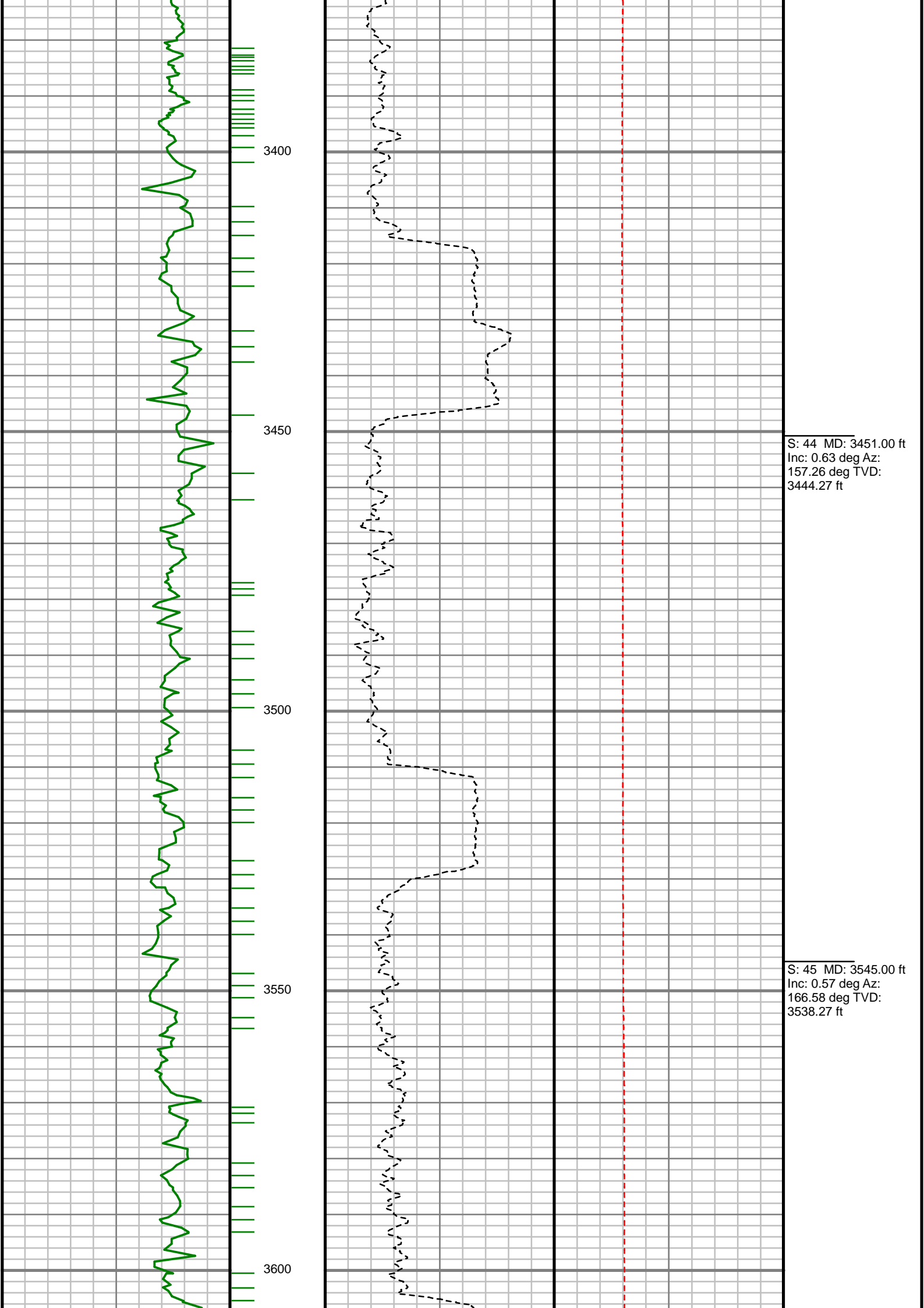


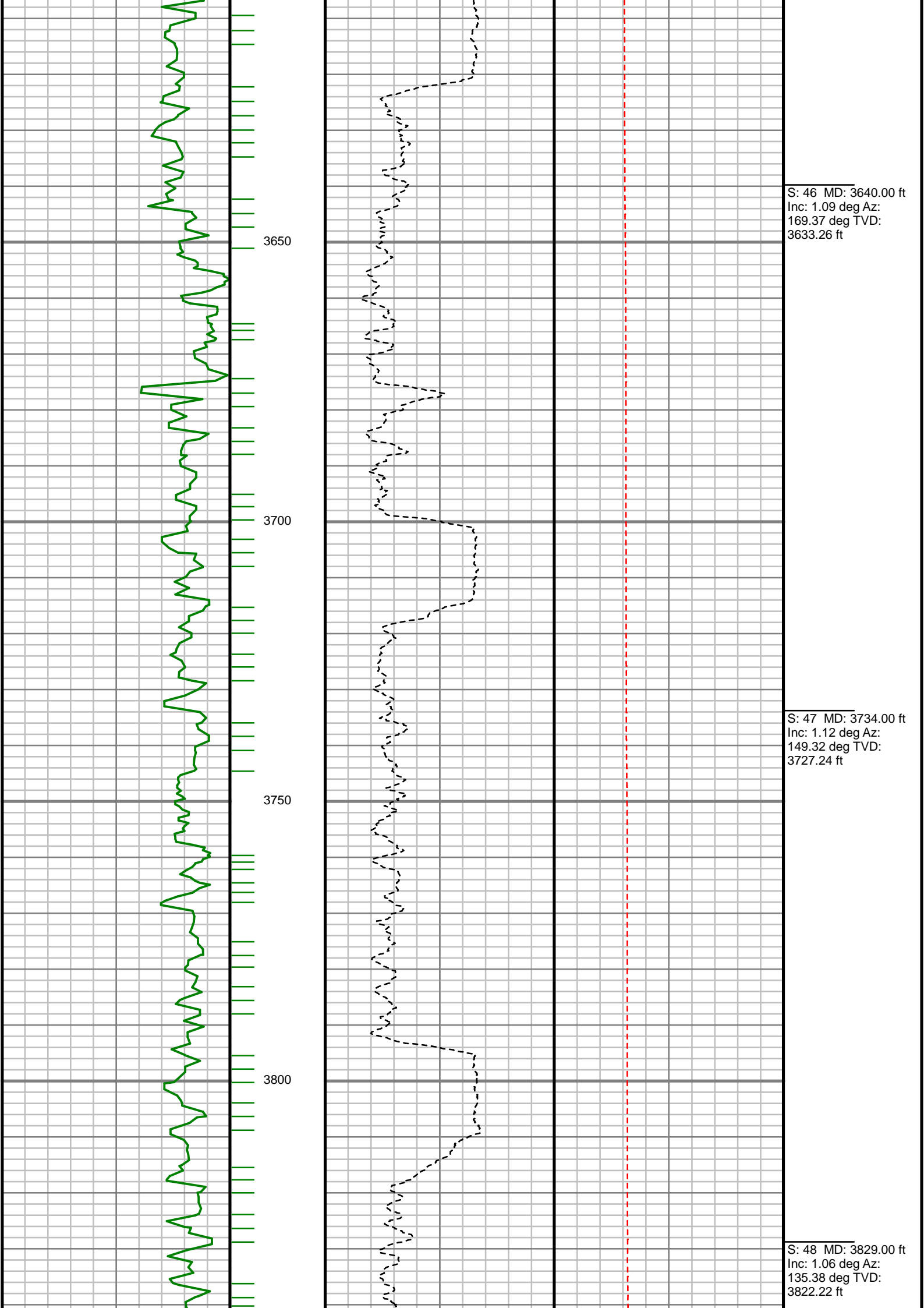


S: 41 MD: 3167.00 ft  
Inc: 0.91 deg Az:  
237.99 deg TVD:  
3160.33 ft

S: 42 MD: 3262.00 ft  
Inc: 1.00 deg Az:  
275.28 deg TVD:  
3255.31 ft

S: 43 MD: 3356.00 ft  
Inc: 1.64 deg Az:  
247.67 deg TVD:  
3349.29 ft

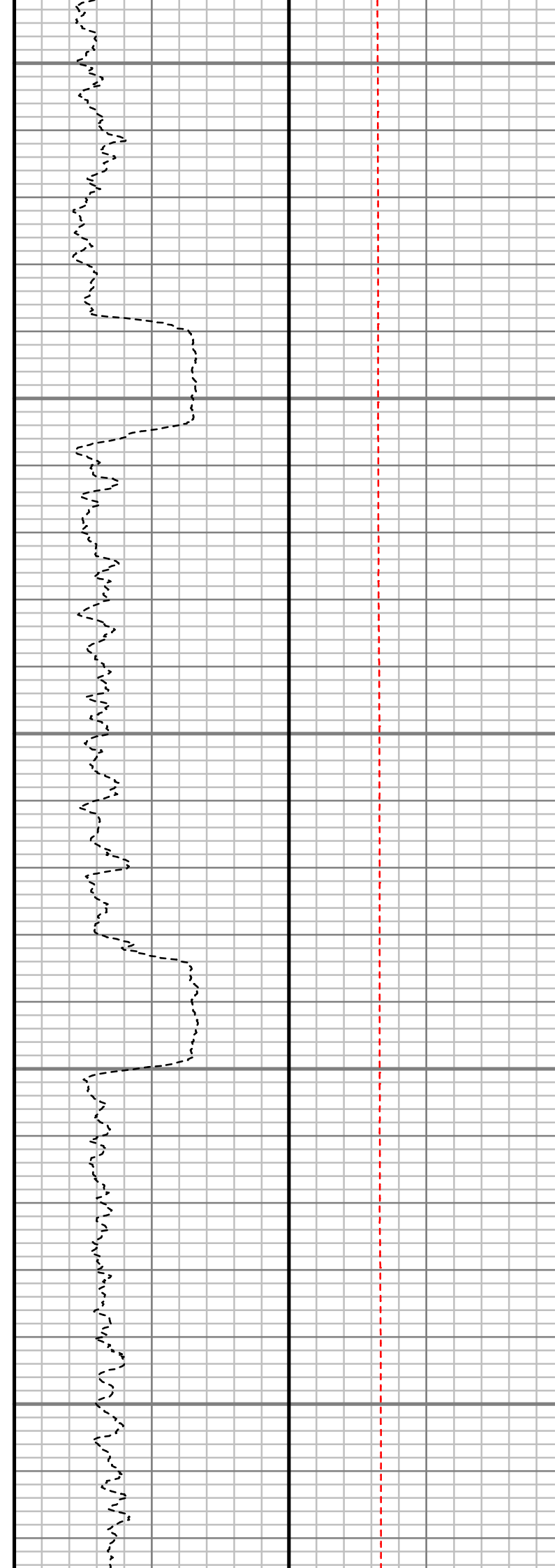
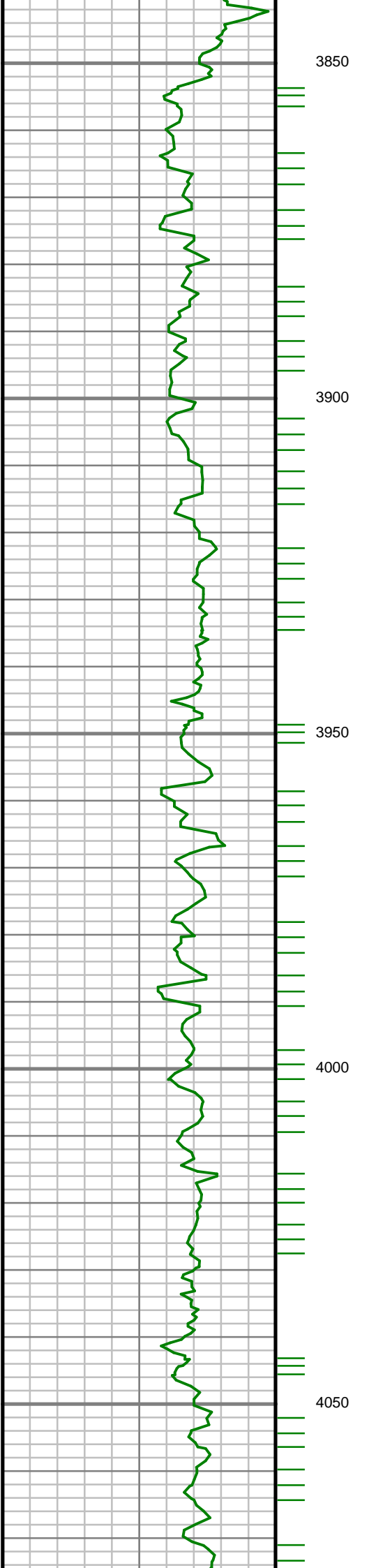




S: 46 MD: 3640.00 ft  
Inc: 1.09 deg Az:  
169.37 deg TVD:  
3633.26 ft

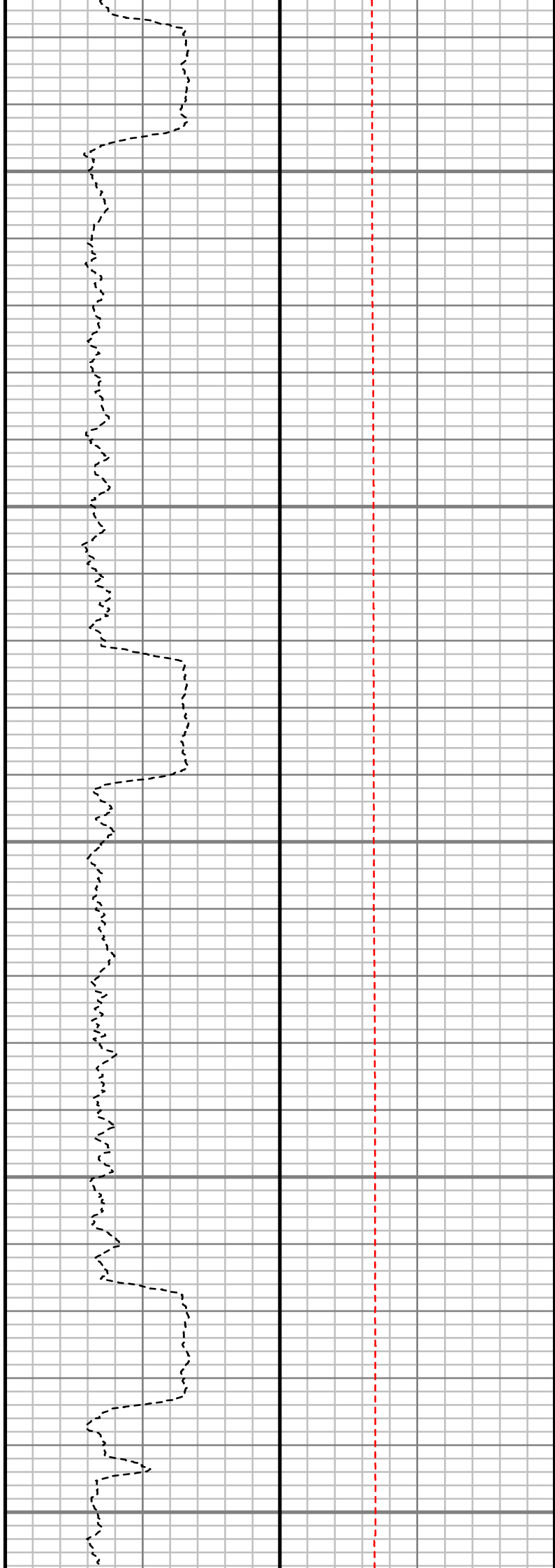
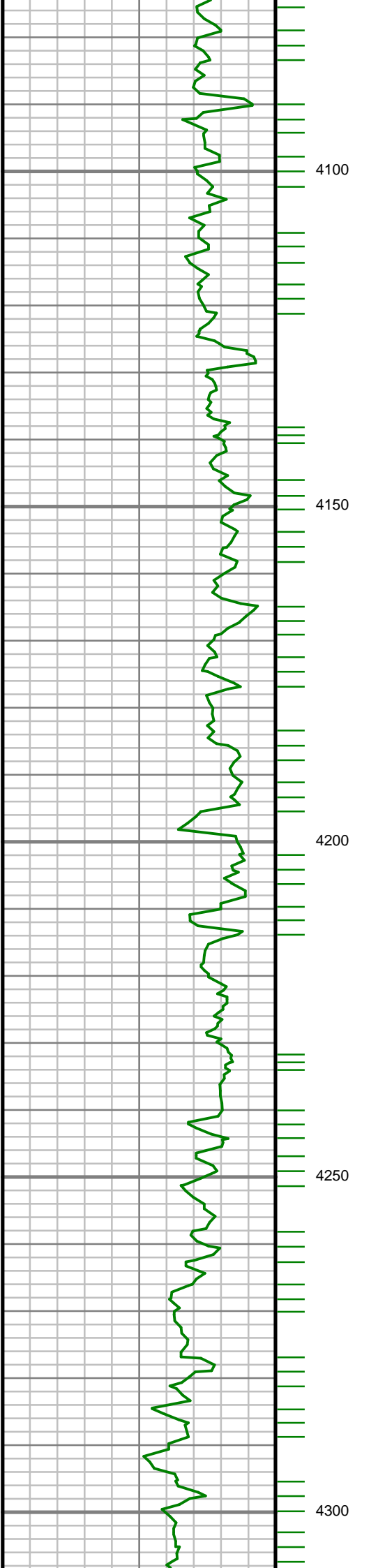
S: 47 MD: 3734.00 ft  
Inc: 1.12 deg Az:  
149.32 deg TVD:  
3727.24 ft

S: 48 MD: 3829.00 ft  
Inc: 1.06 deg Az:  
135.38 deg TVD:  
3822.22 ft



S: 49 MD: 3923.00 ft  
Inc: 0.66 deg Az:  
139.72 deg TVD:  
3916.21 ft

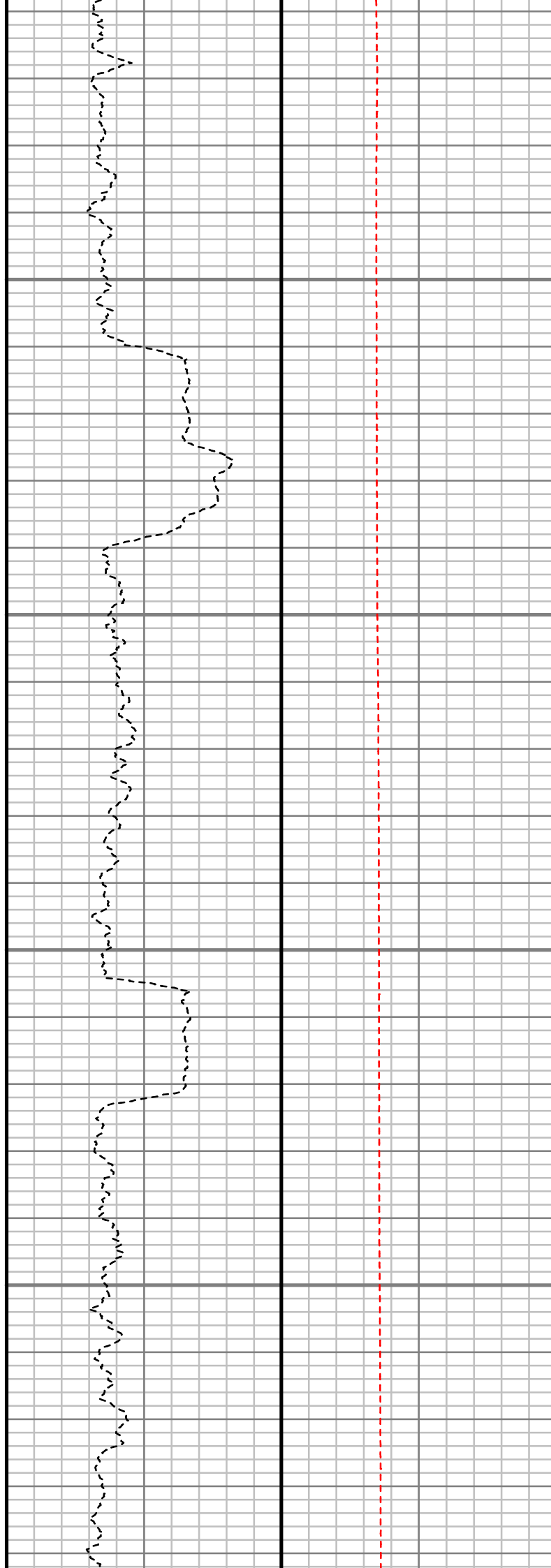
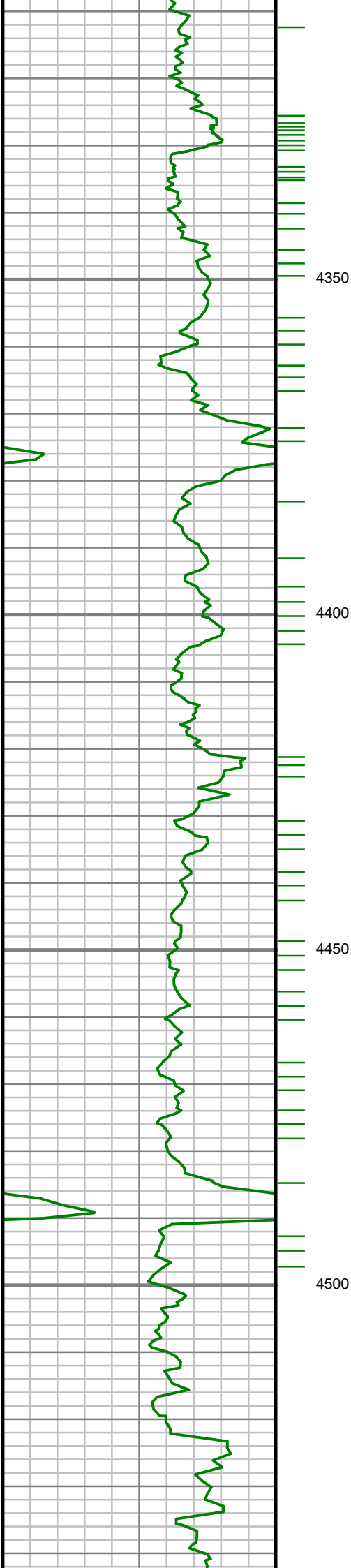
S: 50 MD: 4017.00 ft  
Inc: 0.70 deg Az:  
138.99 deg TVD:  
4010.21 ft



S: 51 MD: 4112.00 ft  
Inc: 0.78 deg Az:  
182.52 deg TVD:  
4105.20 ft

S: 52 MD: 4206.00 ft  
Inc: 0.31 deg Az:  
198.24 deg TVD:  
4199.20 ft

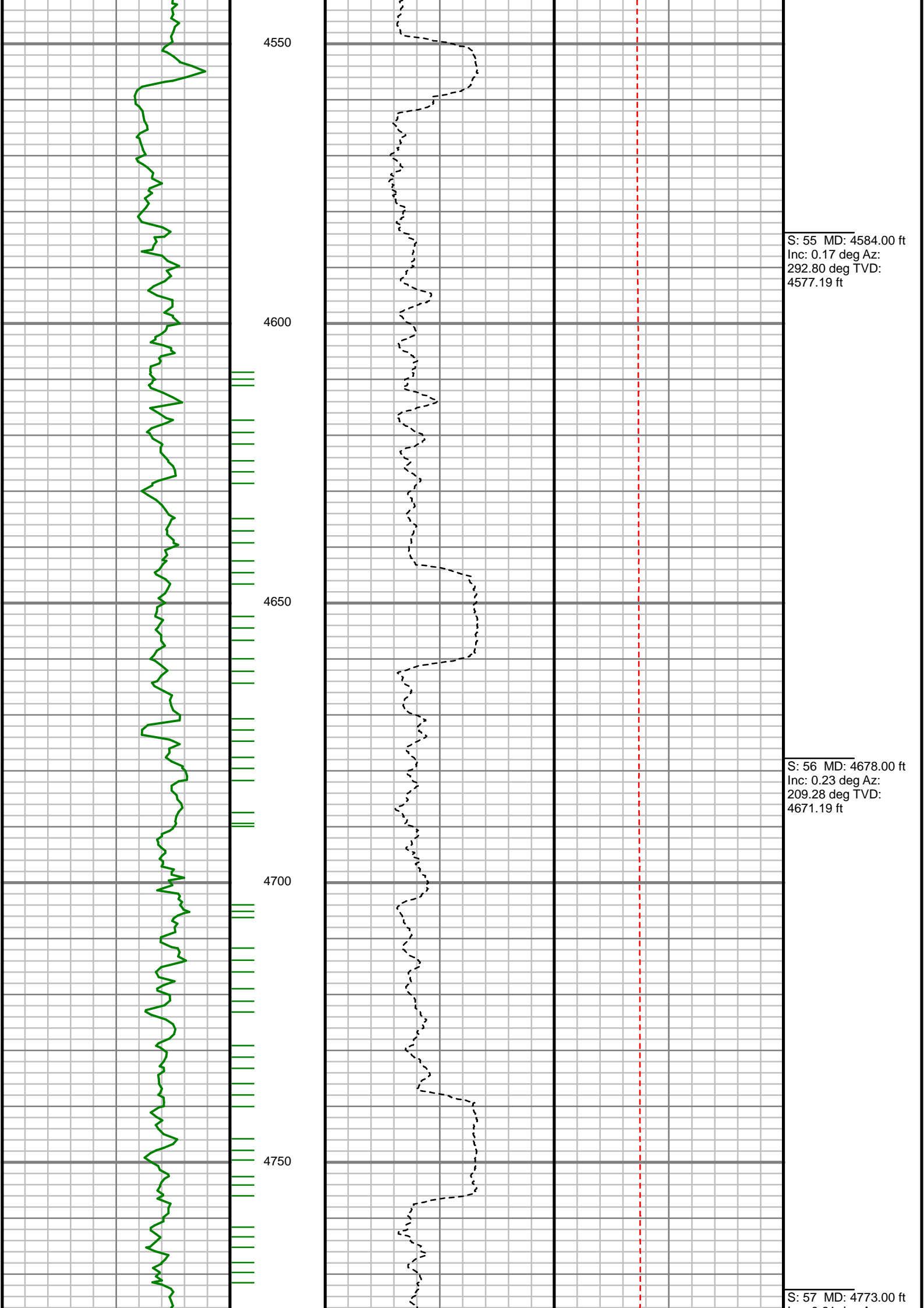
S: 53 MD: 4301.00 ft  
Inc: 0.33 deg Az:  
241.00 deg TVD:

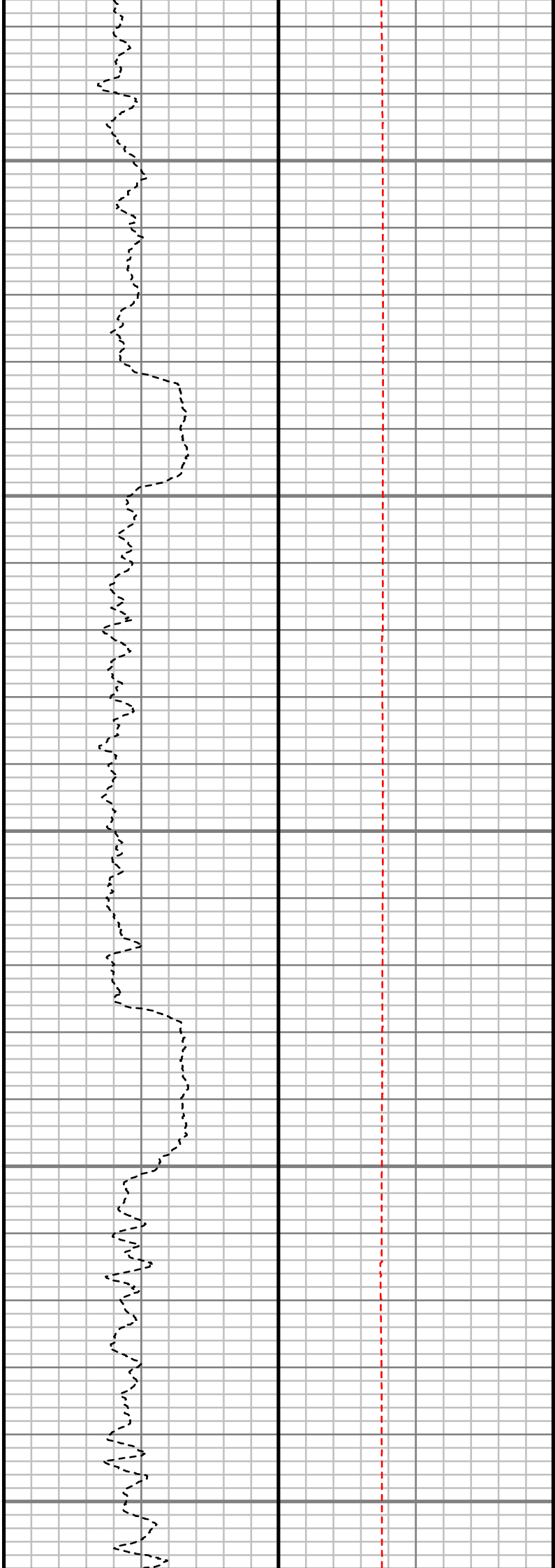
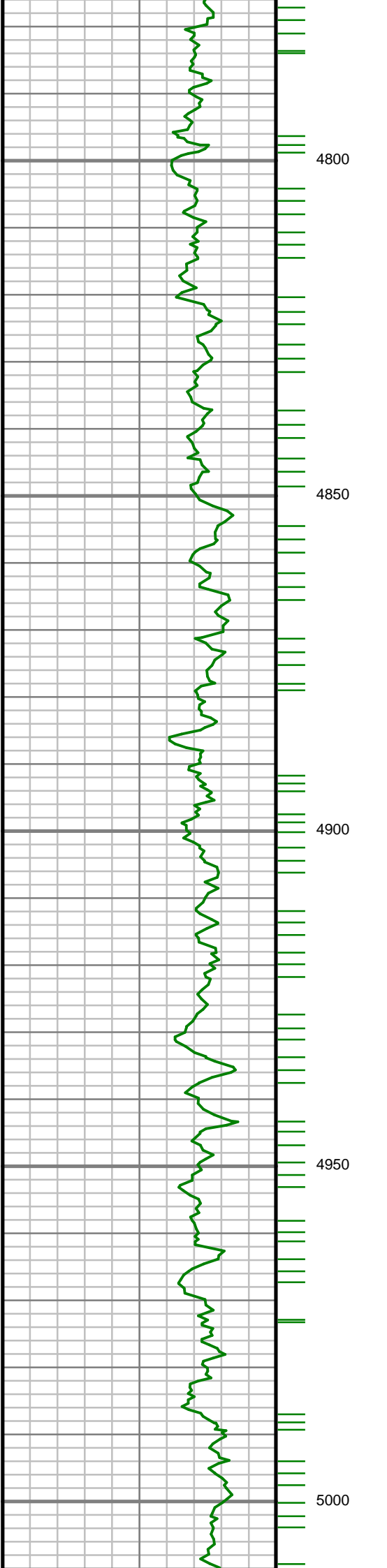


4294.19 ft

S: 54 MD: 4395.00 ft  
Inc: 0.71 deg Az: 68.21  
deg TVD: 4388.19 ft



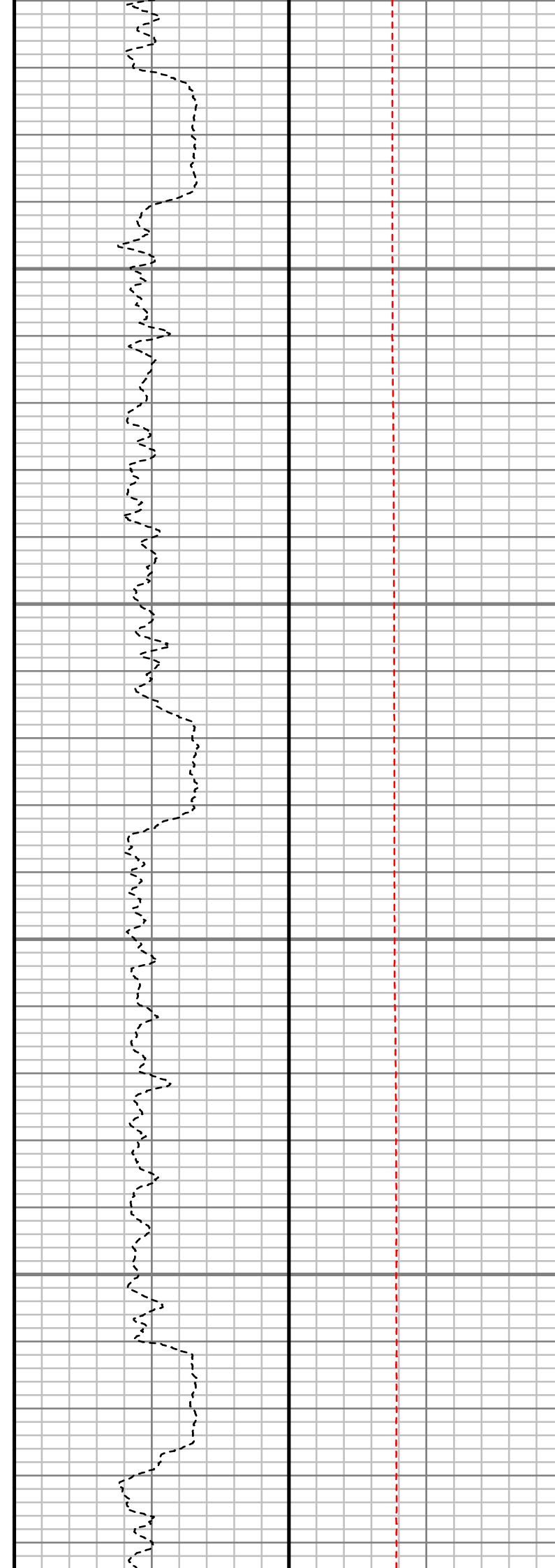
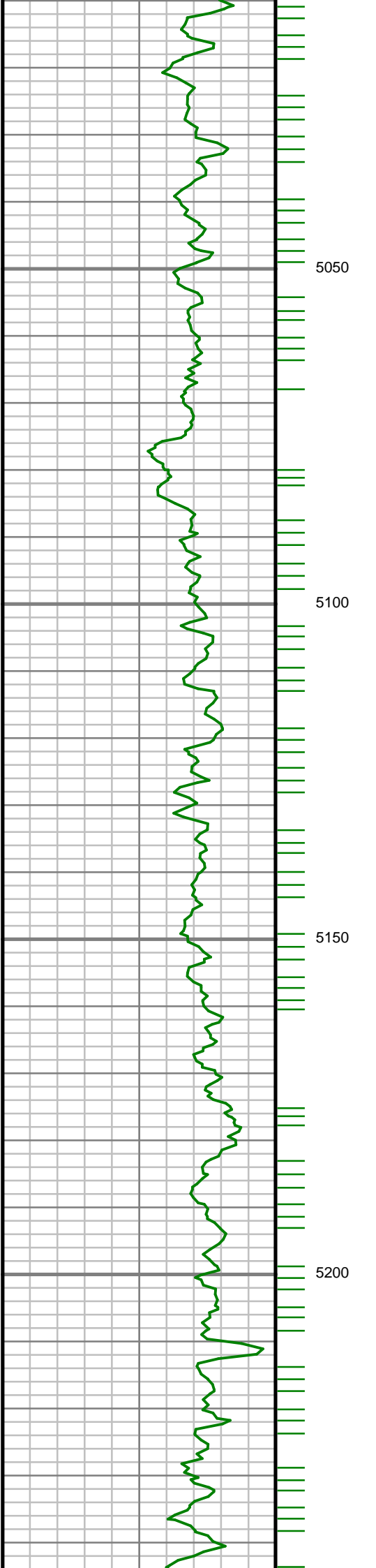




Inc: 0.61 deg Az:  
110.37 deg TVD:  
4766.19 ft

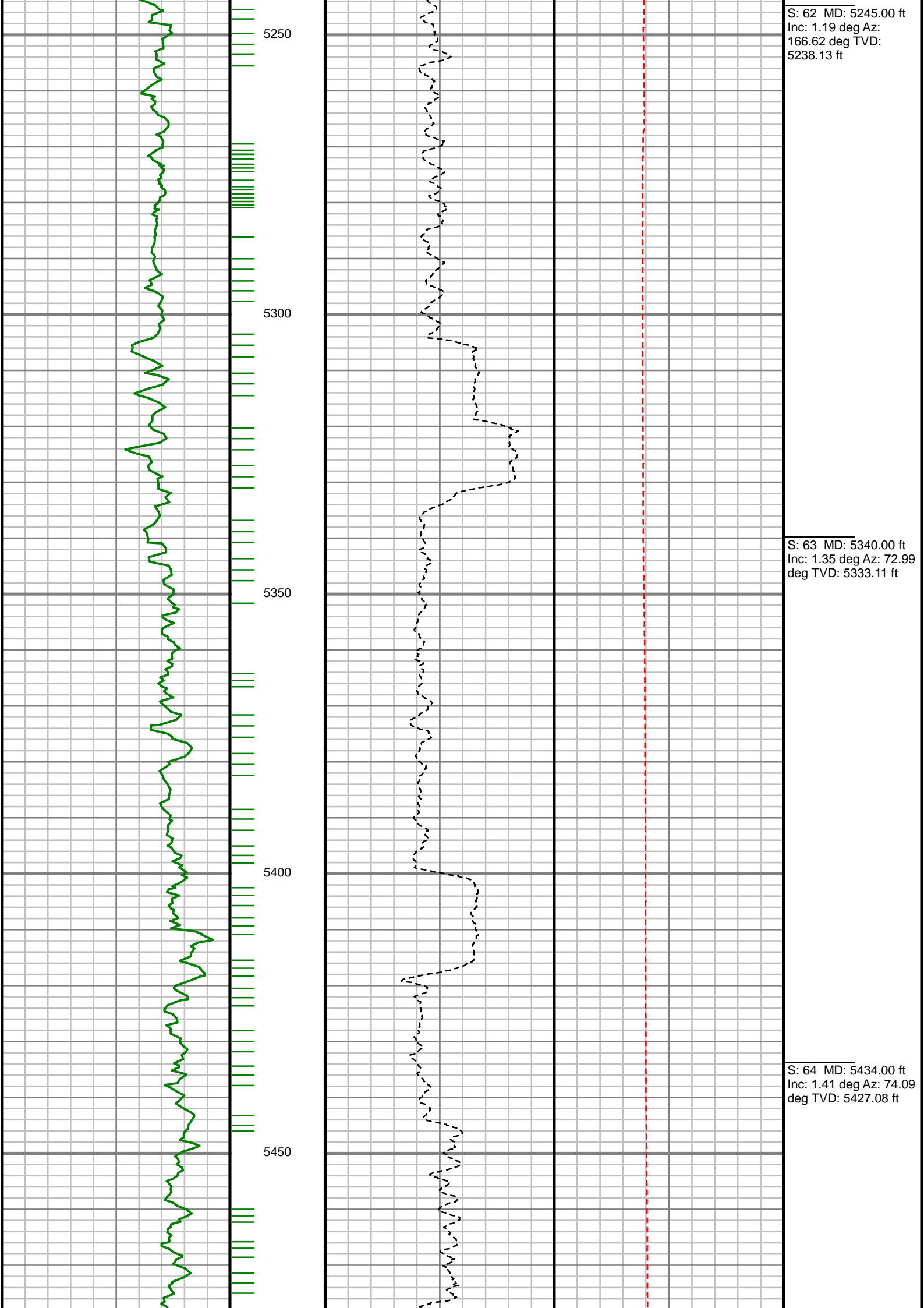
S: 58 MD: 4867.00 ft  
Inc: 1.15 deg Az:  
147.31 deg TVD:  
4860.17 ft

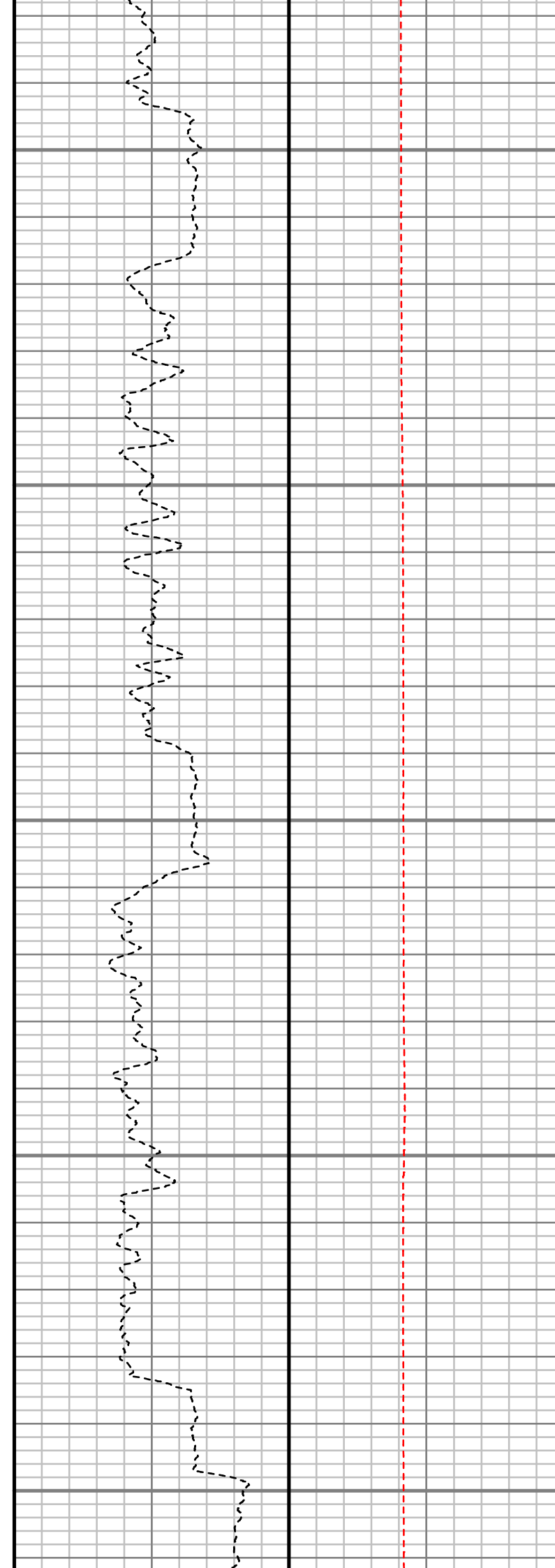
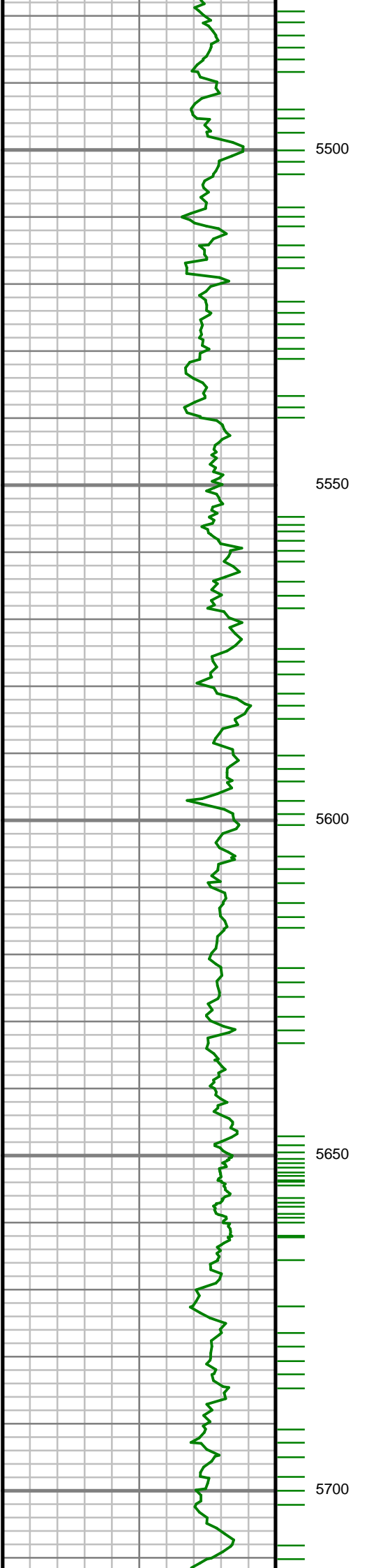
S: 59 MD: 4962.00 ft  
Inc: 0.96 deg Az:  
125.79 deg TVD:  
4955.16 ft



S: 60 MD: 5056.00 ft  
Inc: 0.99 deg Az:  
140.74 deg TVD:  
5049.15 ft

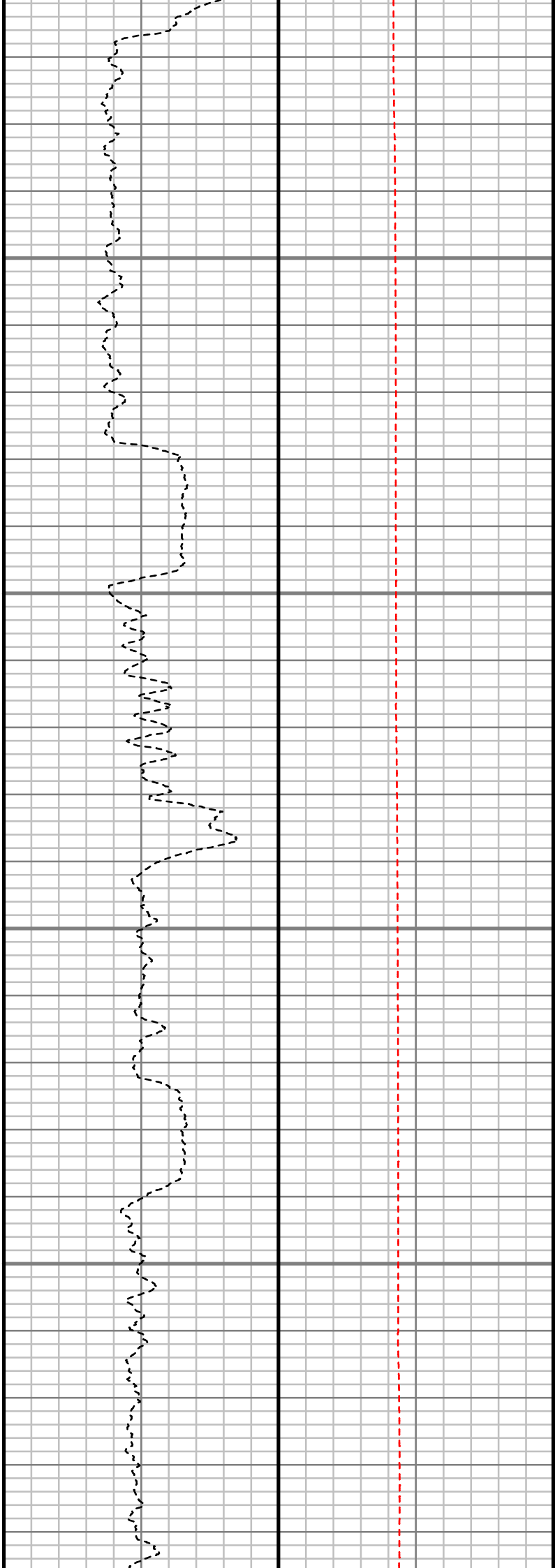
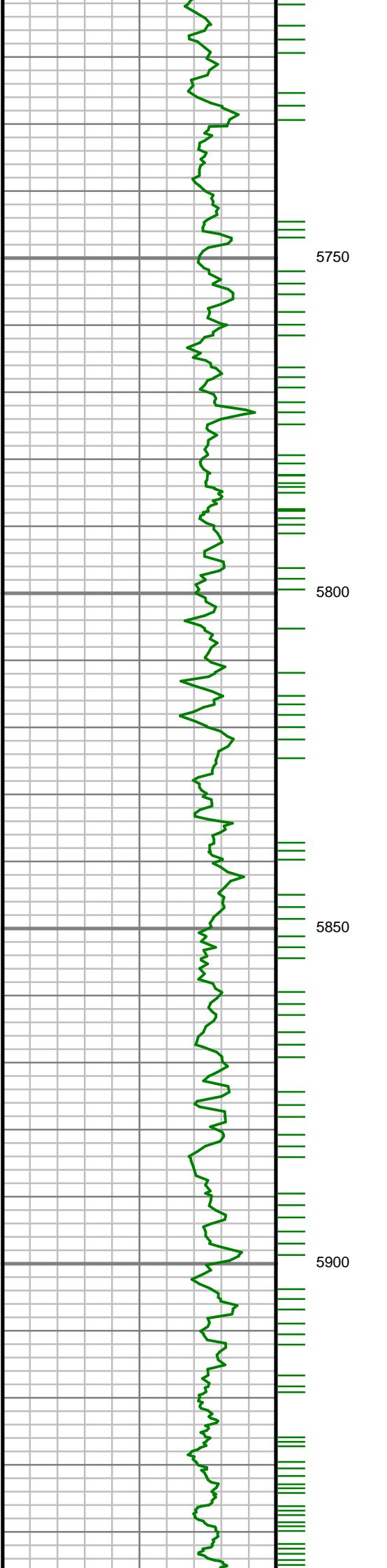
S: 61 MD: 5151.00 ft  
Inc: 0.54 deg Az:  
161.14 deg TVD:  
5144.14 ft





S: 65 MD: 5529.00 ft  
Inc: 1.18 deg Az: 50.77  
deg TVD: 5522.06 ft

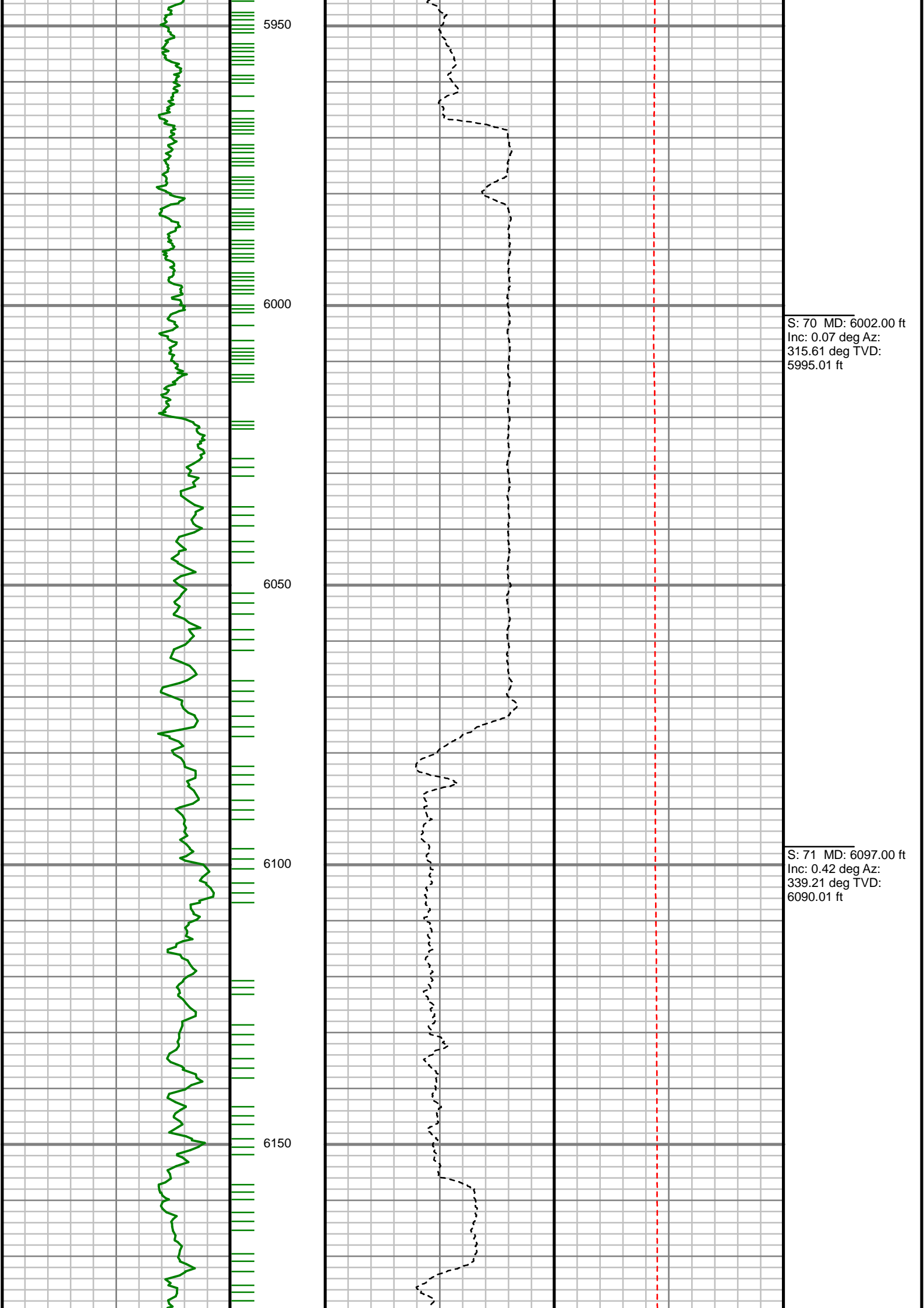
S: 66 MD: 5624.00 ft  
Inc: 1.25 deg Az: 63.75  
deg TVD: 5617.04 ft

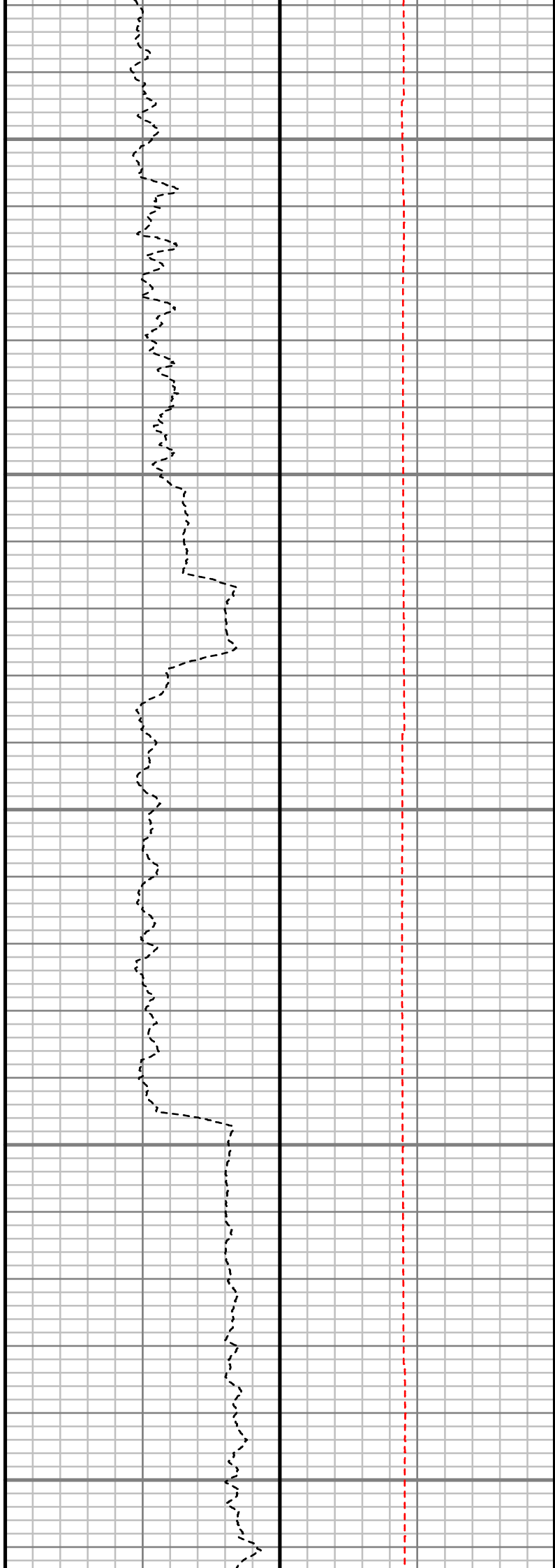
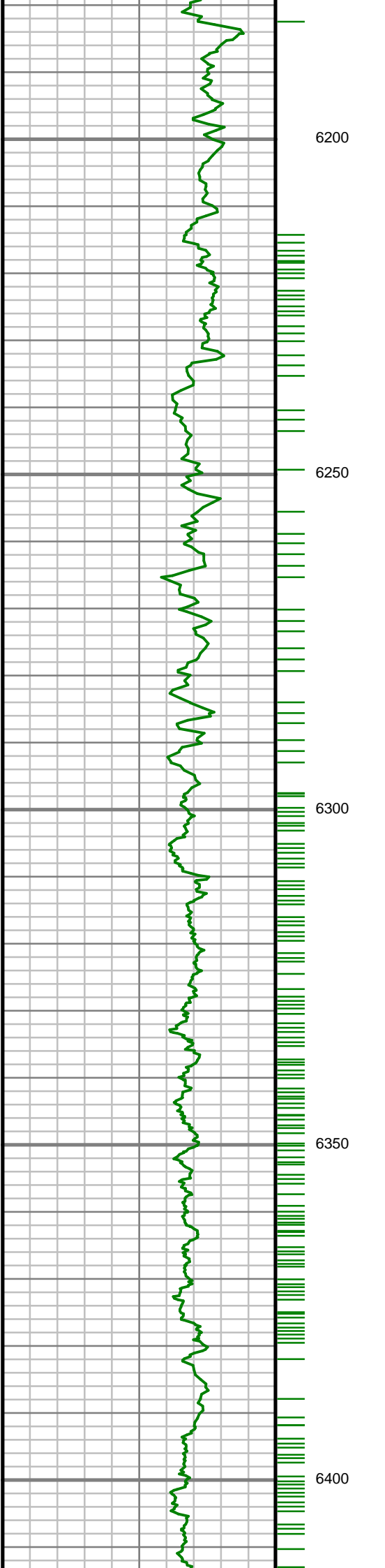


S: 67 MD: 5718.00 ft  
Inc: 0.84 deg Az:  
131.39 deg TVD:  
5711.03 ft

S: 68 MD: 5813.00 ft  
Inc: 0.66 deg Az:  
159.10 deg TVD:  
5806.02 ft

S: 69 MD: 5908.00 ft  
Inc: 0.34 deg Az:  
263.70 deg TVD:  
5901.02 ft



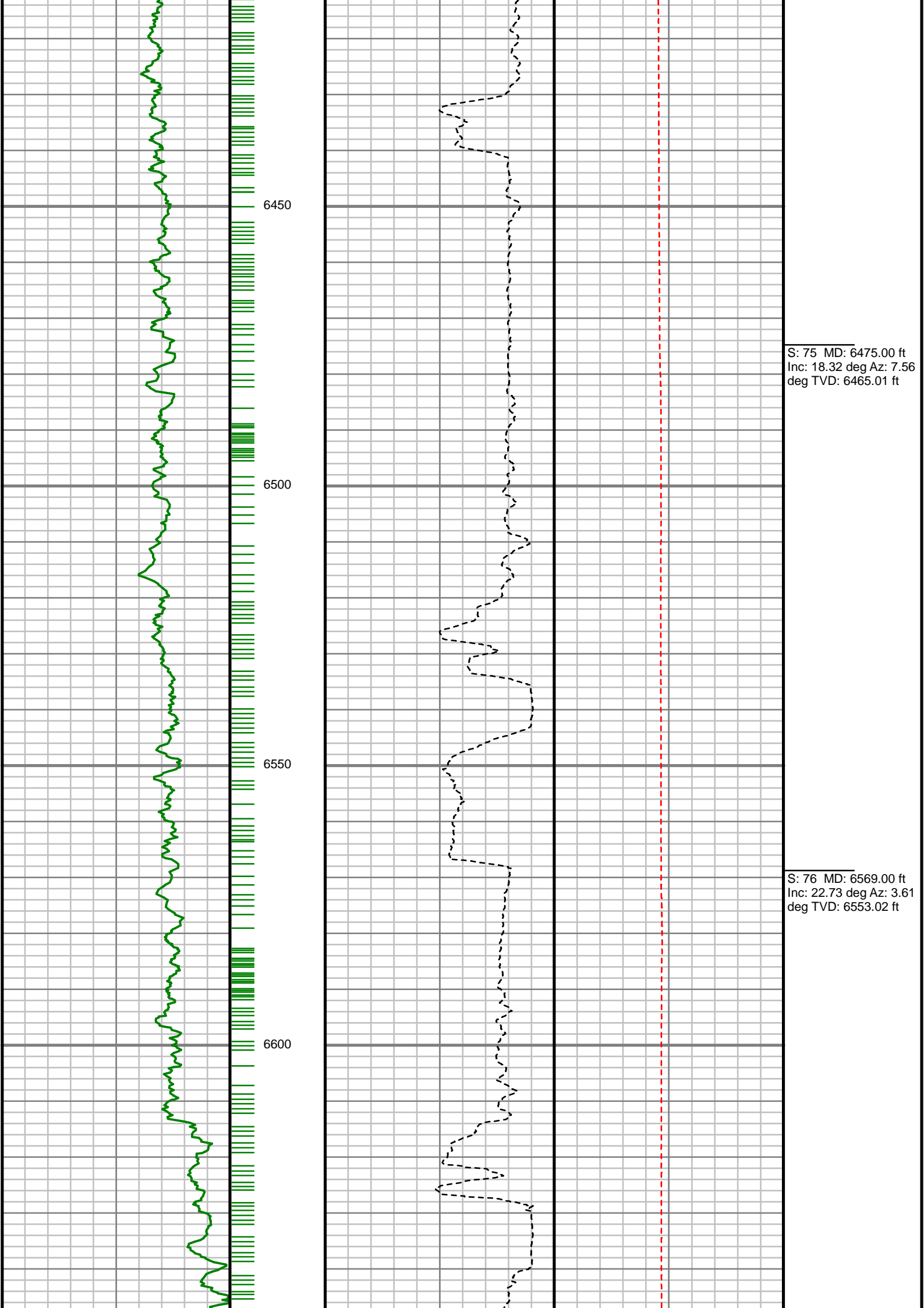


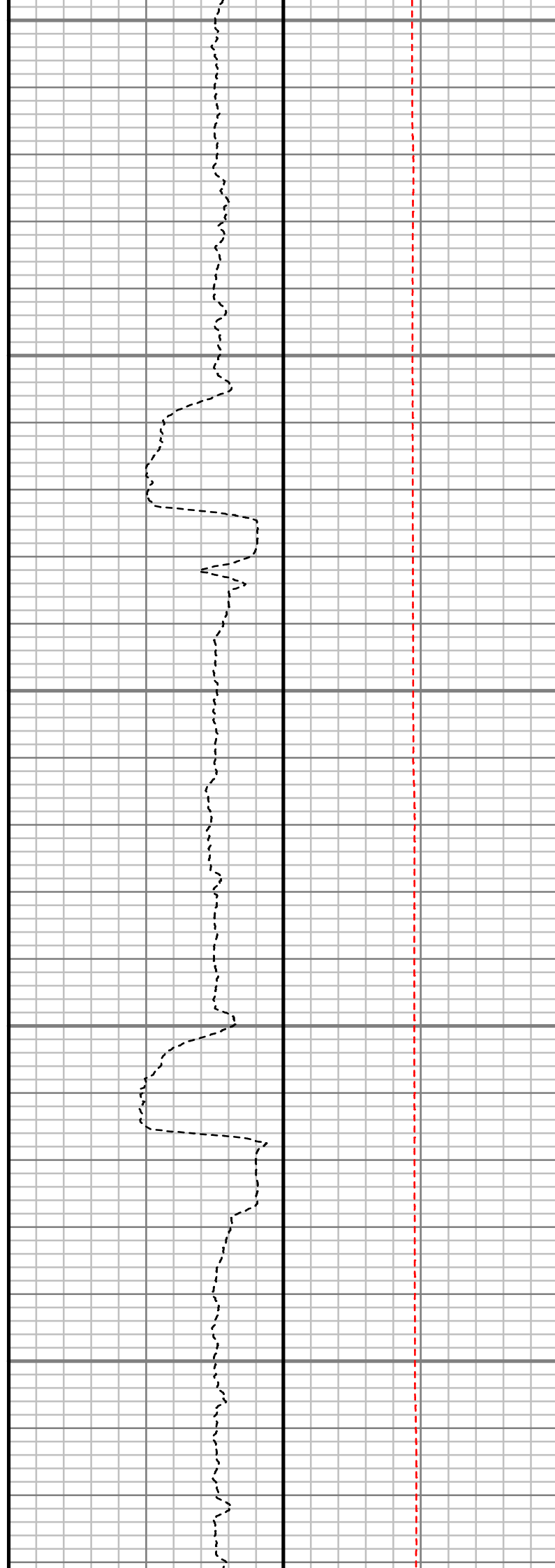
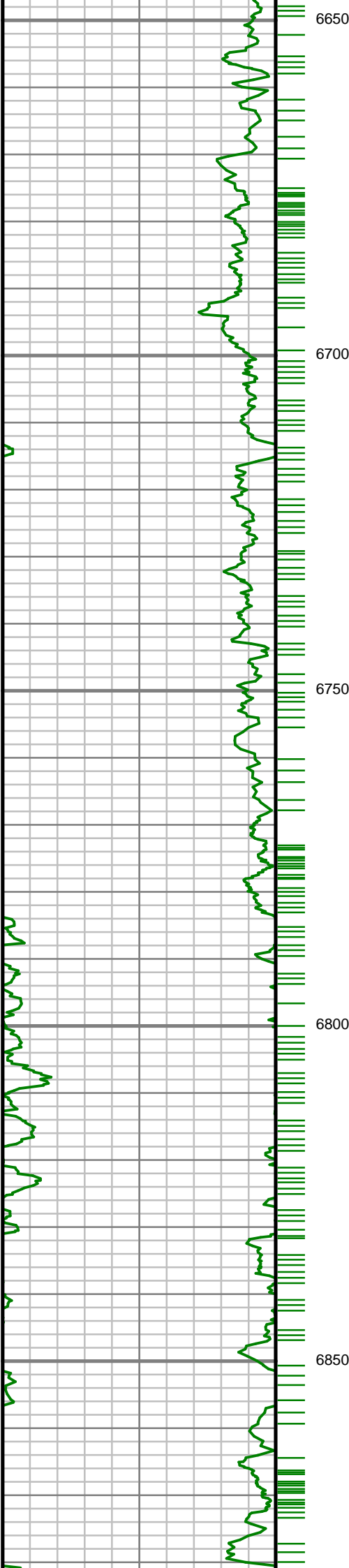
S: 72 MD: 6191.00 ft  
Inc: 1.18 deg Az:  
321.51 deg TVD:  
6184.00 ft

S: 73 MD: 6286.00 ft  
Inc: 1.80 deg Az:  
312.53 deg TVD:  
6278.97 ft

S: 74 MD: 6380.00 ft  
Inc: 7.97 deg Az: 12.47  
deg TVD: 6372.62 ft



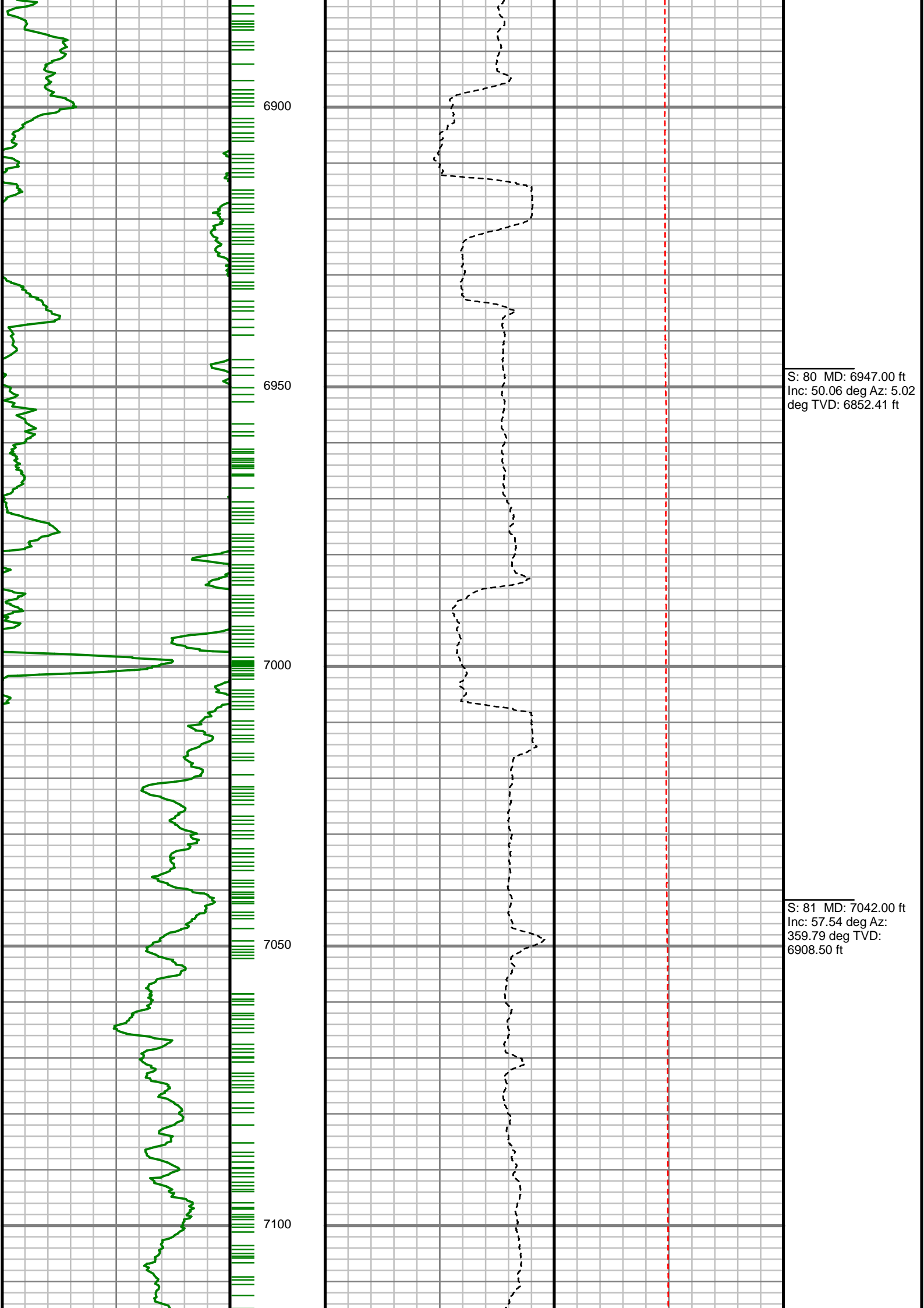


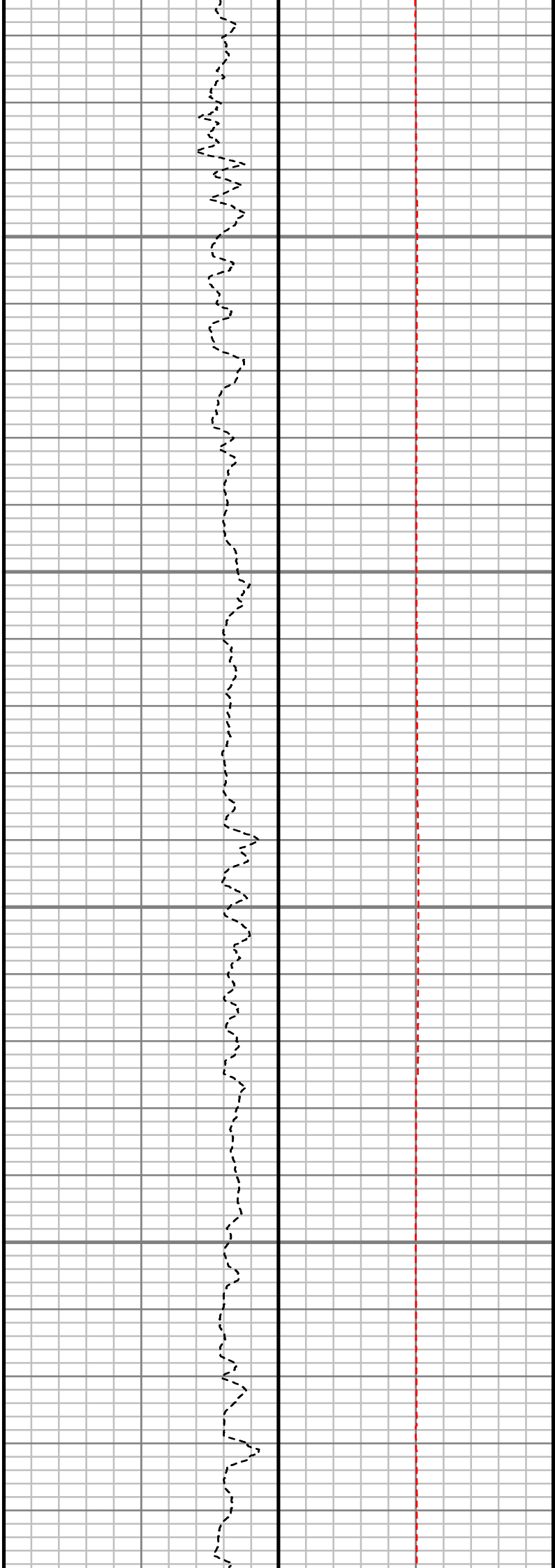
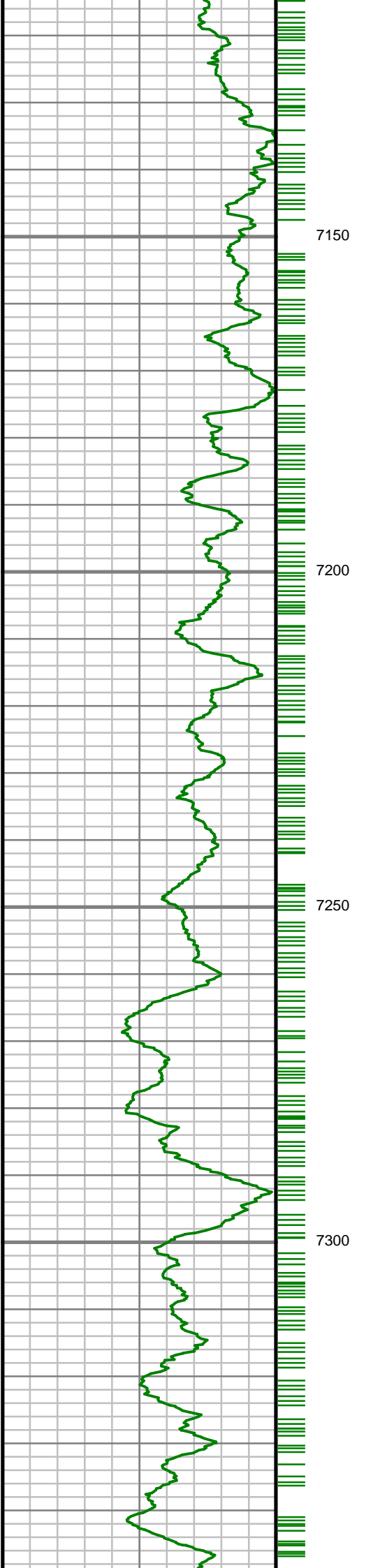


S: 77 MD: 6663.00 ft  
Inc: 29.47 deg Az: 358.45 deg TVD: 6637.40 ft

S: 78 MD: 6758.00 ft  
Inc: 36.26 deg Az: 2.12 deg TVD: 6717.16 ft

S: 79 MD: 6852.00 ft  
Inc: 45.13 deg Az: 4.75 deg TVD: 6788.36 ft

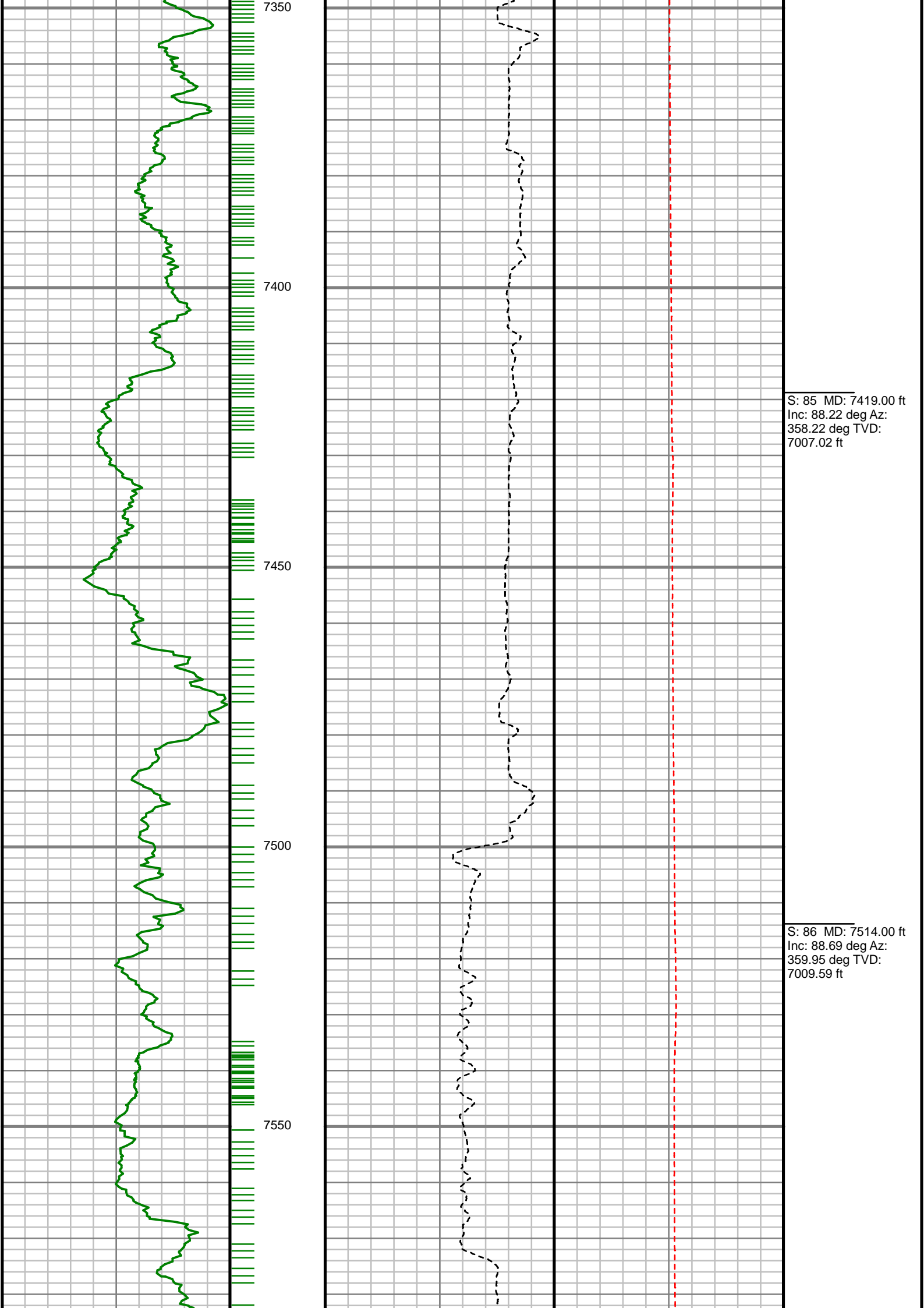




S: 82 MD: 7136.00 ft  
Inc: 67.55 deg Az: 7.82  
deg TVD: 6951.84 ft

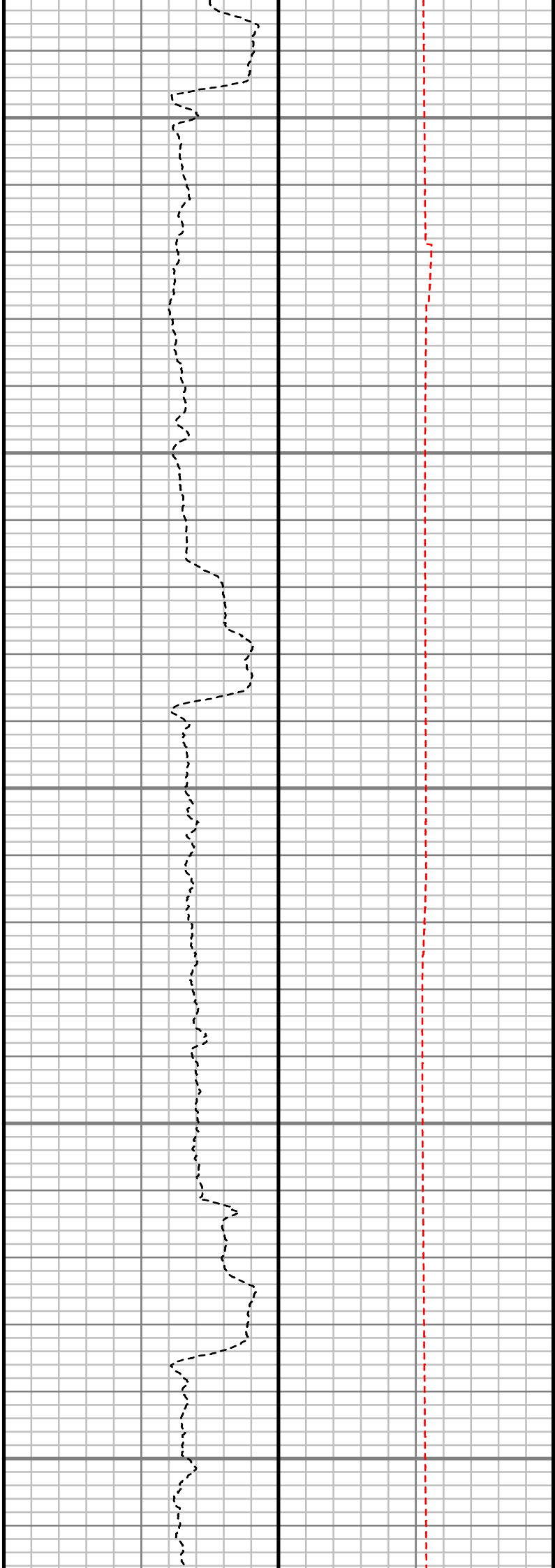
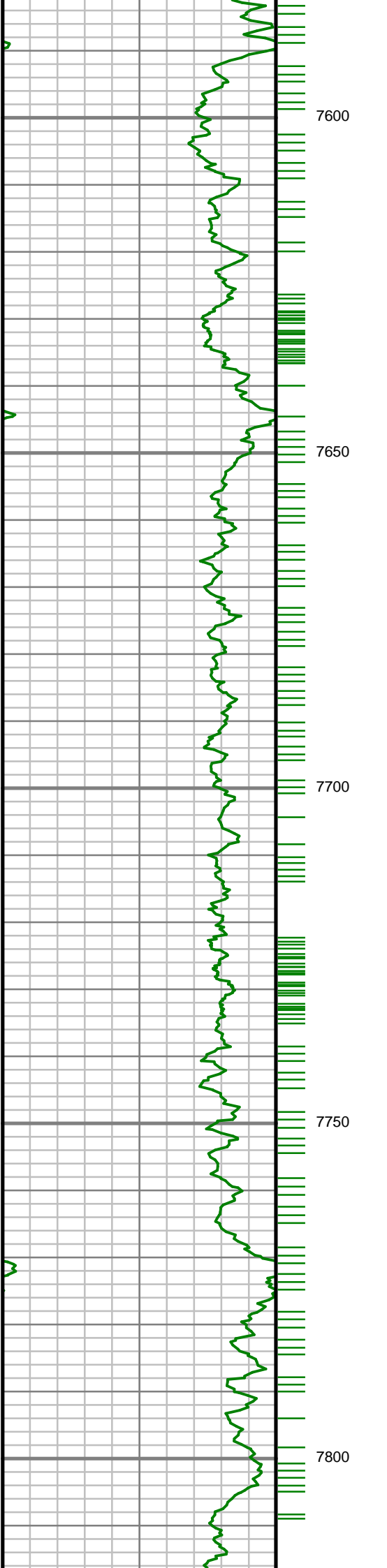
S: 83 MD: 7230.00 ft  
Inc: 75.05 deg Az: 6.66  
deg TVD: 6981.96 ft

S: 84 MD: 7325.00 ft  
Inc: 83.13 deg Az:  
359.95 deg TVD:  
6999.94 ft



S: 85 MD: 7419.00 ft  
Inc: 88.22 deg Az:  
358.22 deg TVD:  
7007.02 ft

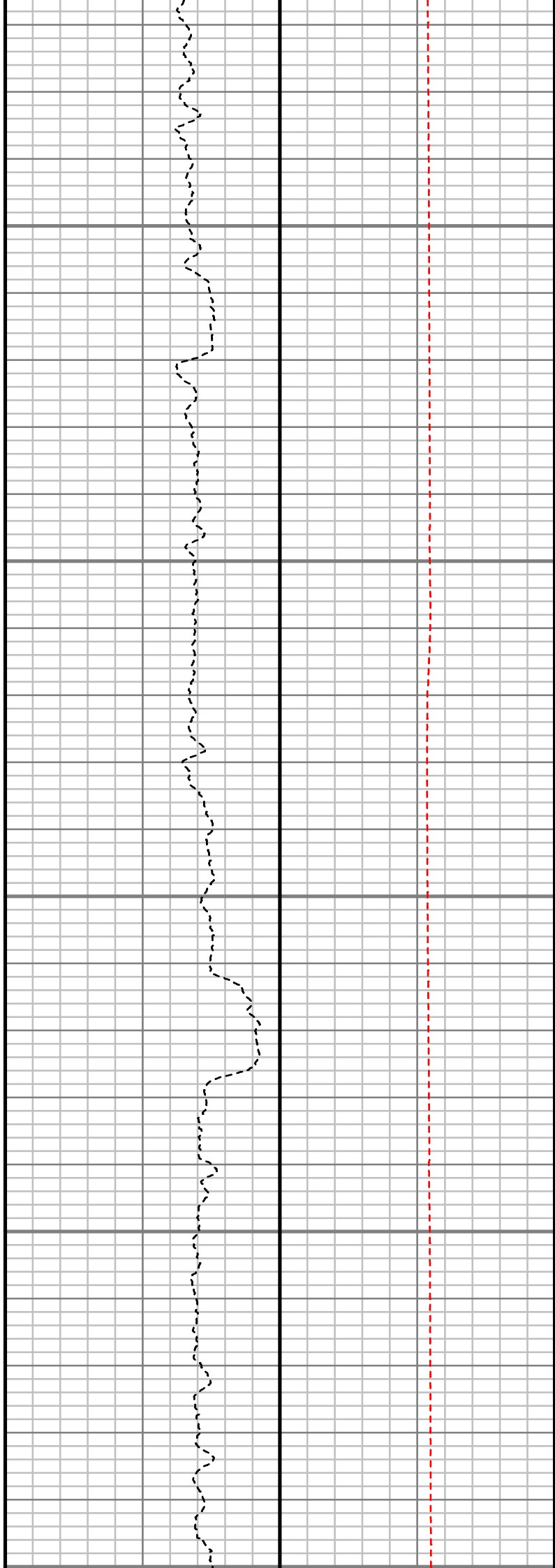
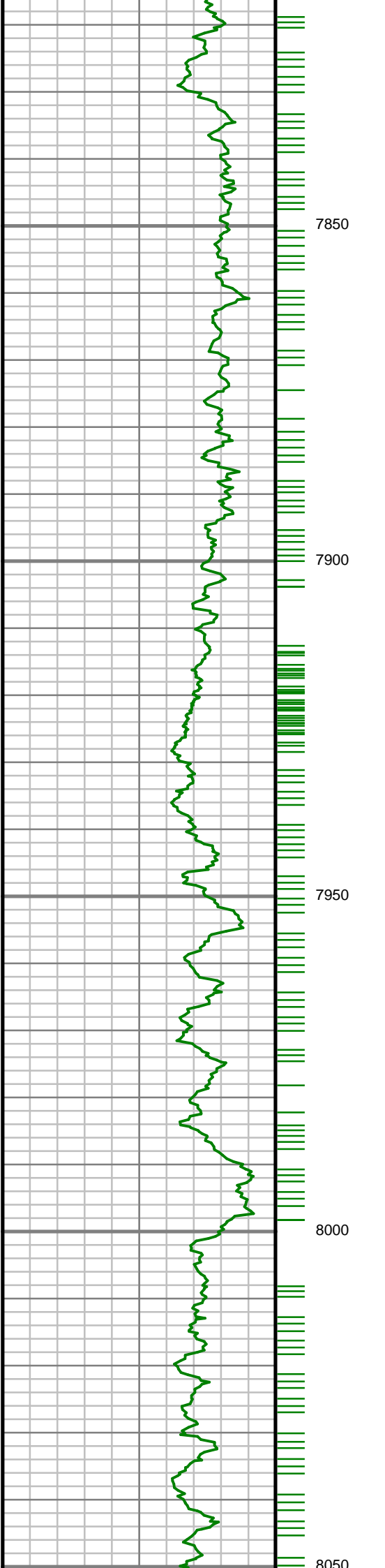
S: 86 MD: 7514.00 ft  
Inc: 88.69 deg Az:  
359.95 deg TVD:  
7009.59 ft



S: 87 MD: 7608.00 ft  
Inc: 89.97 deg Az: 0.84  
deg TVD: 7010.69 ft

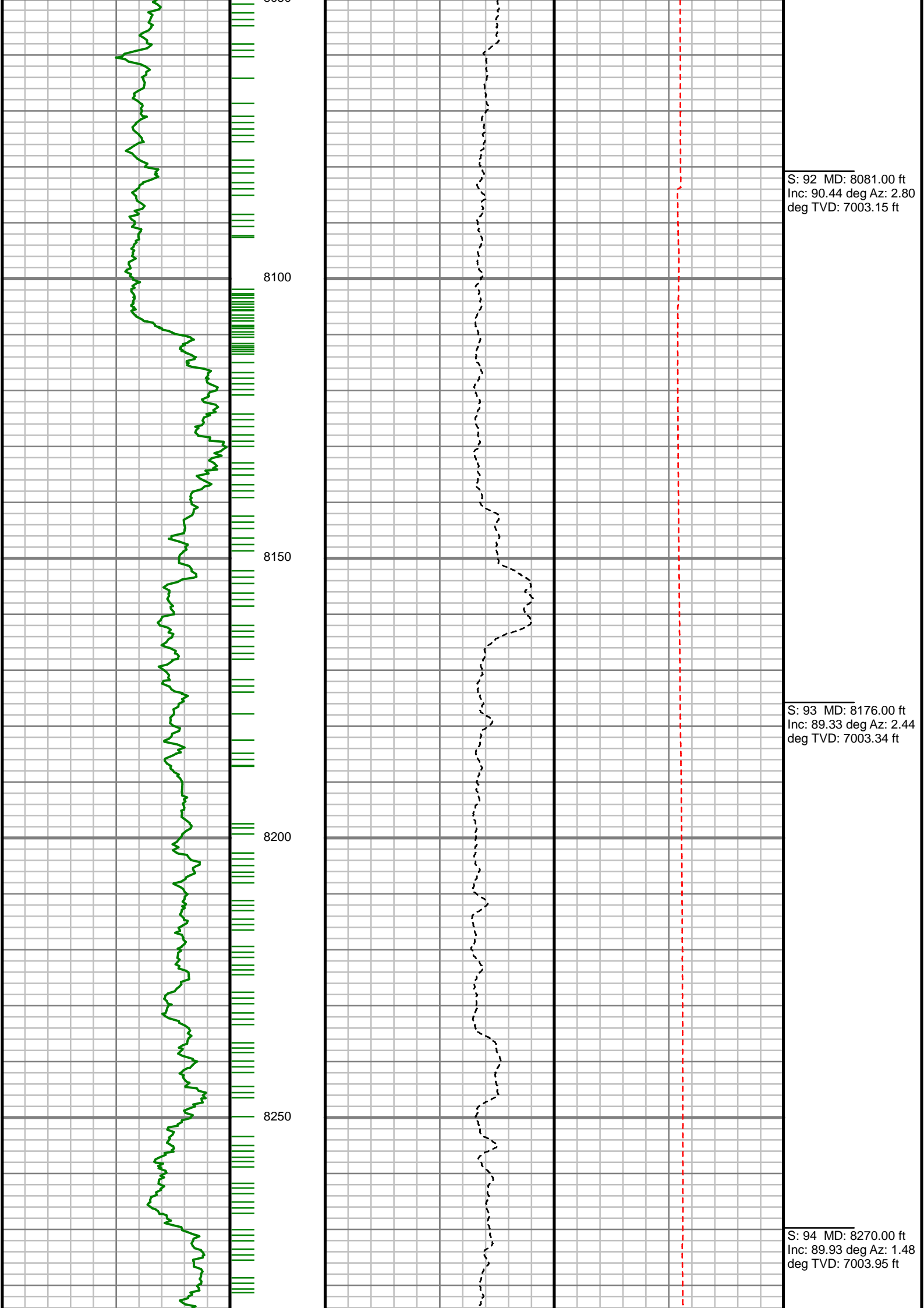
S: 88 MD: 7703.00 ft  
Inc: 91.81 deg Az: 1.37  
deg TVD: 7009.21 ft

S: 89 MD: 7798.00 ft  
Inc: 90.77 deg Az: 2.44  
deg TVD: 7007.07 ft

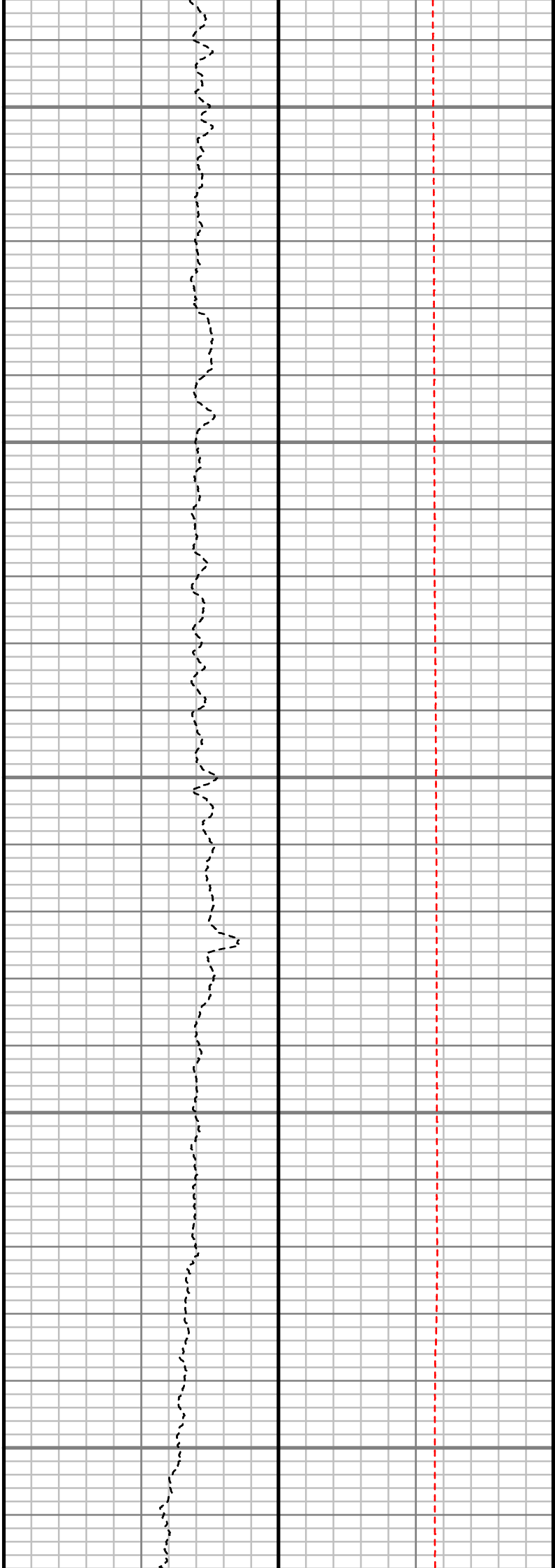
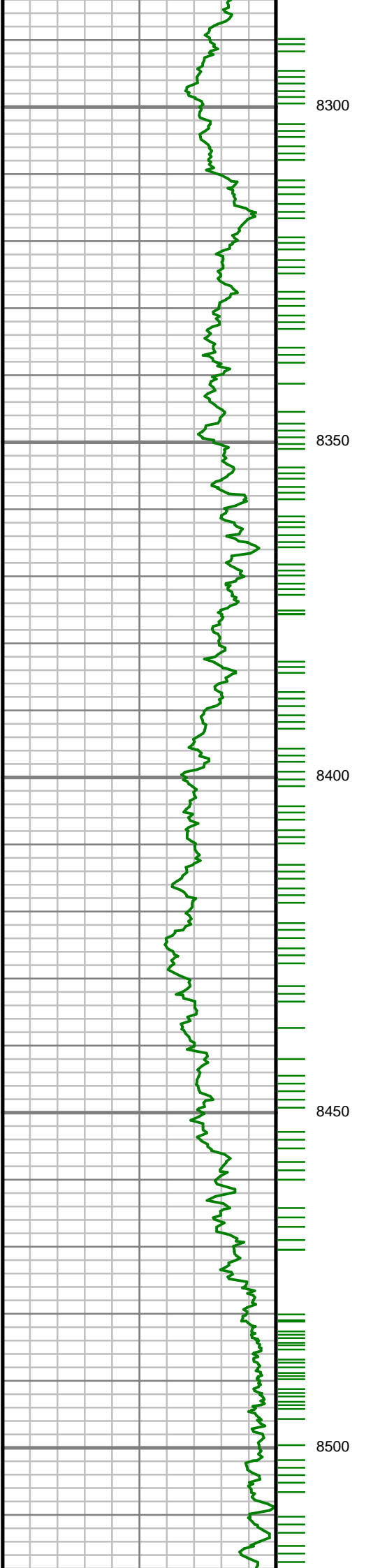


S: 90 MD: 7892.00 ft  
Inc: 92.01 deg Az: 2.22  
deg TVD: 7004.79 ft

S: 91 MD: 7987.00 ft  
Inc: 89.77 deg Az: 2.86  
deg TVD: 7003.31 ft

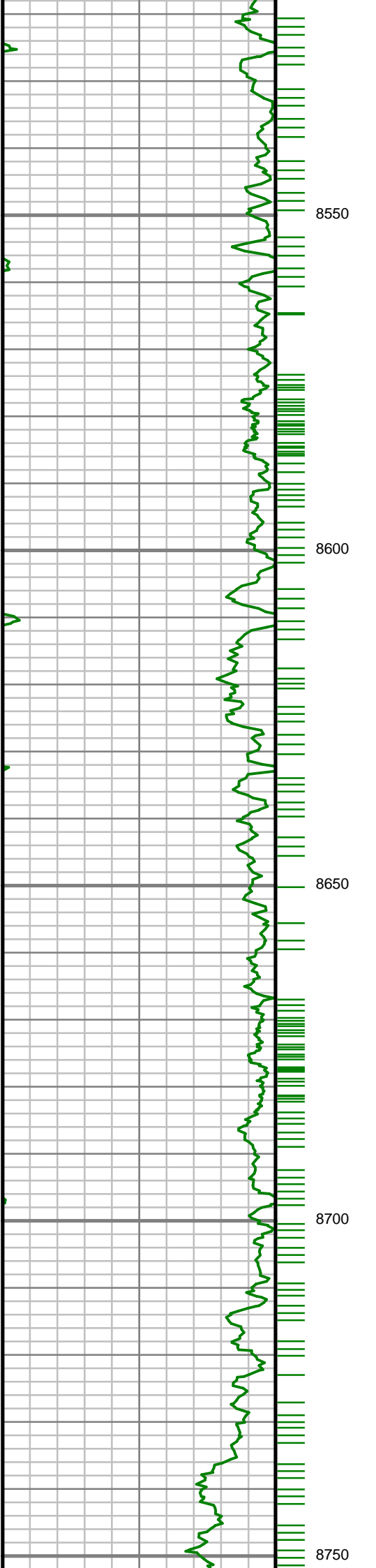






S: 95 MD: 8365.00 ft  
Inc: 90.07 deg Az: 0.82  
deg TVD: 7003.95 ft

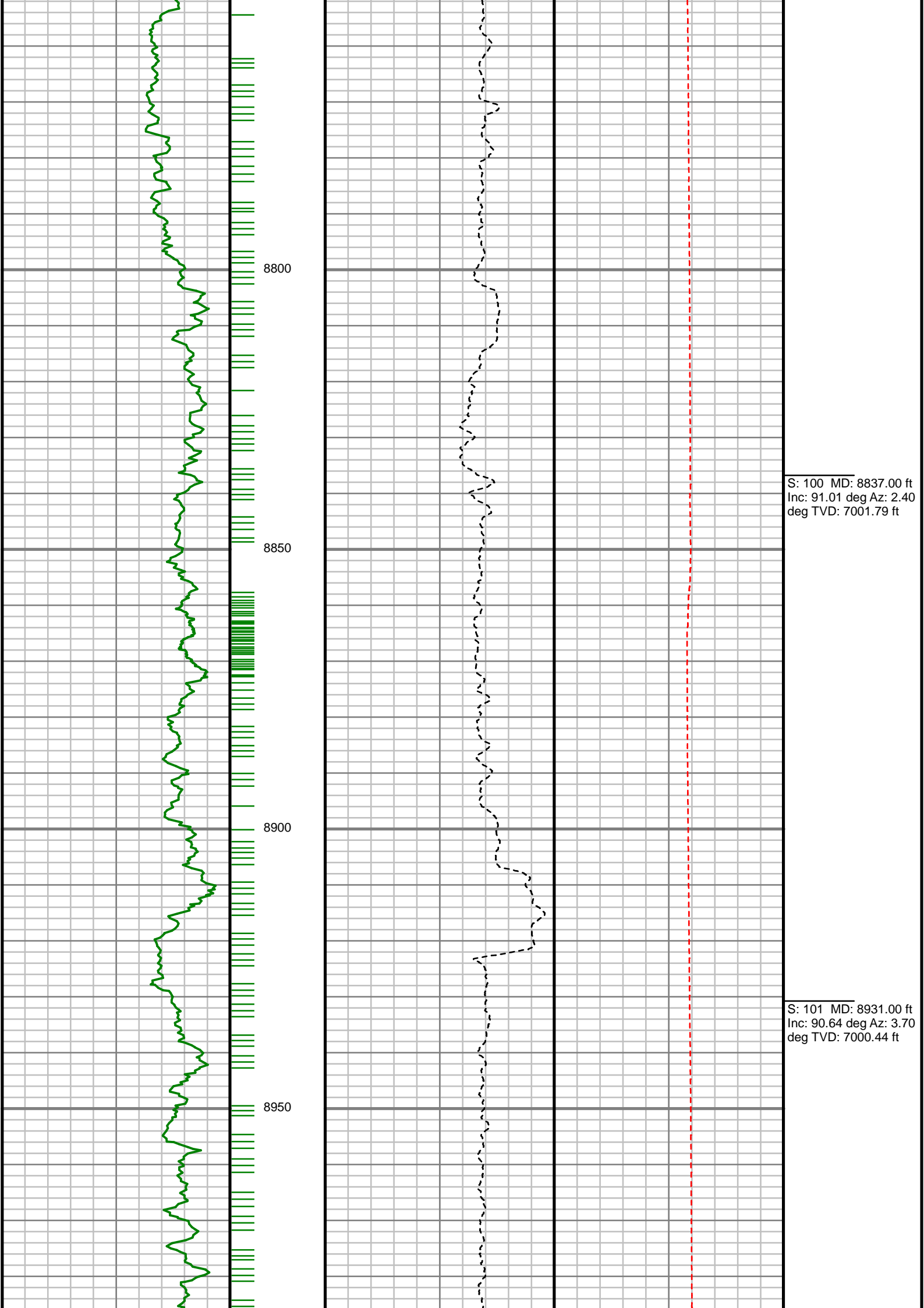
S: 96 MD: 8459.00 ft  
Inc: 90.77 deg Az: 0.05  
deg TVD: 7003.26 ft

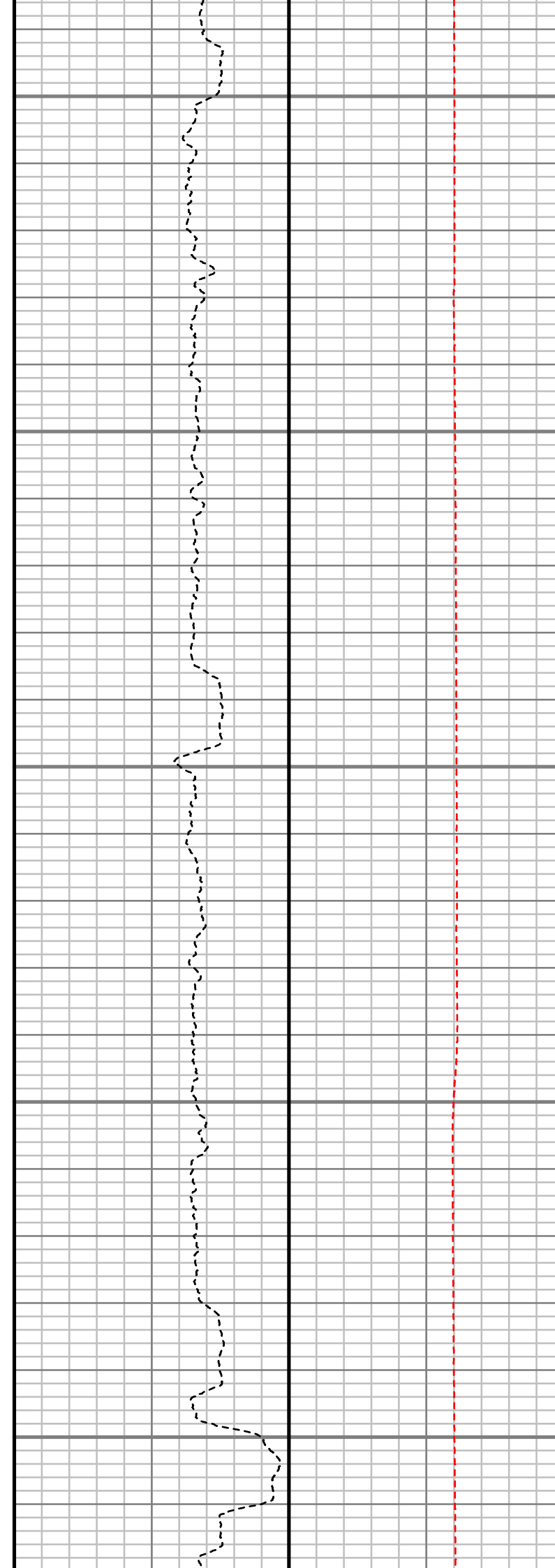
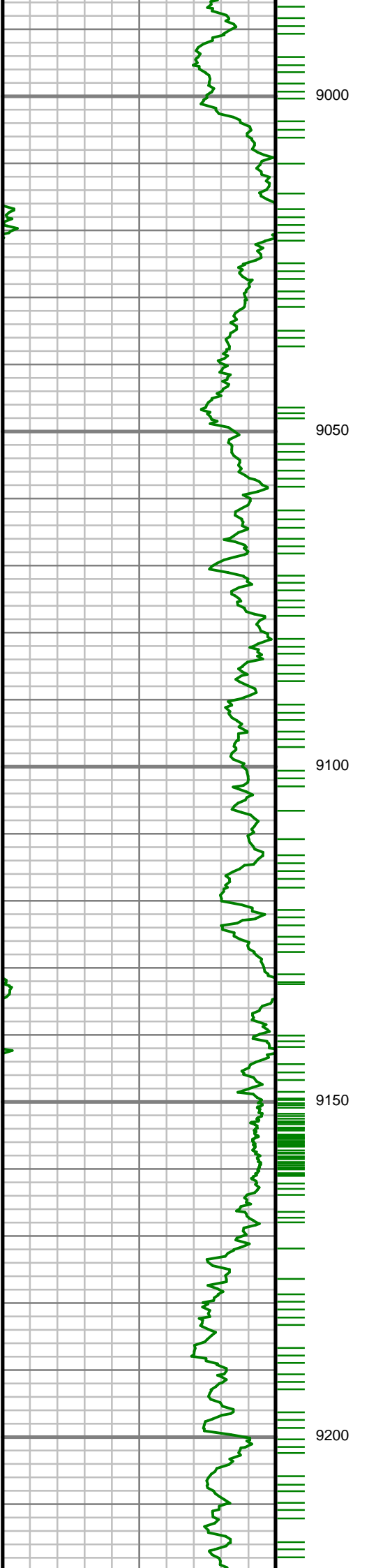


S: 97 MD: 8553.00 ft  
Inc: 90.40 deg Az: 1.52  
deg TVD: 7002.30 ft

S: 98 MD: 8648.00 ft  
Inc: 89.26 deg Az: 2.13  
deg TVD: 7002.57 ft

S: 99 MD: 8742.00 ft  
Inc: 90.34 deg Az: 3.11  
deg TVD: 7002.90 ft

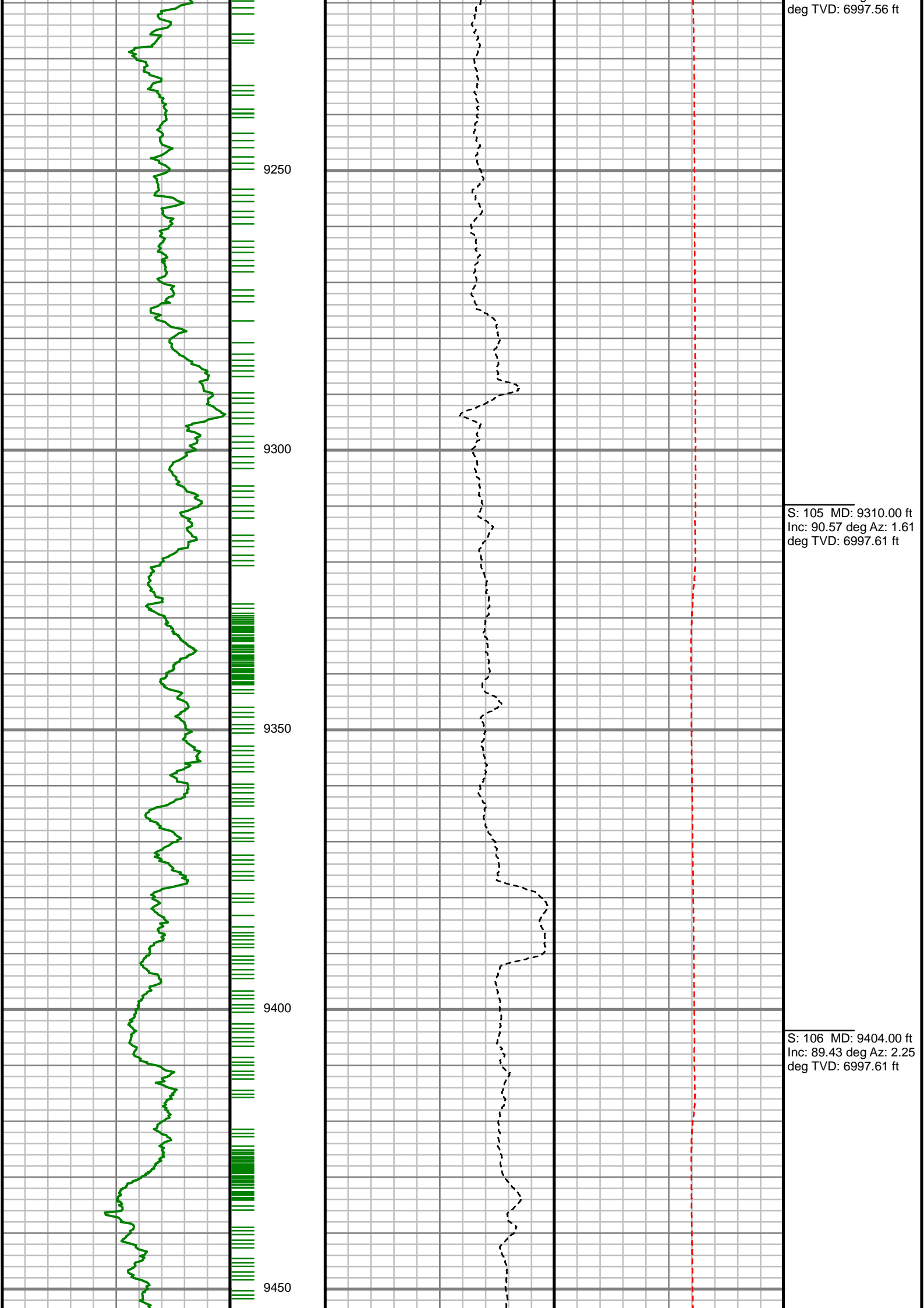


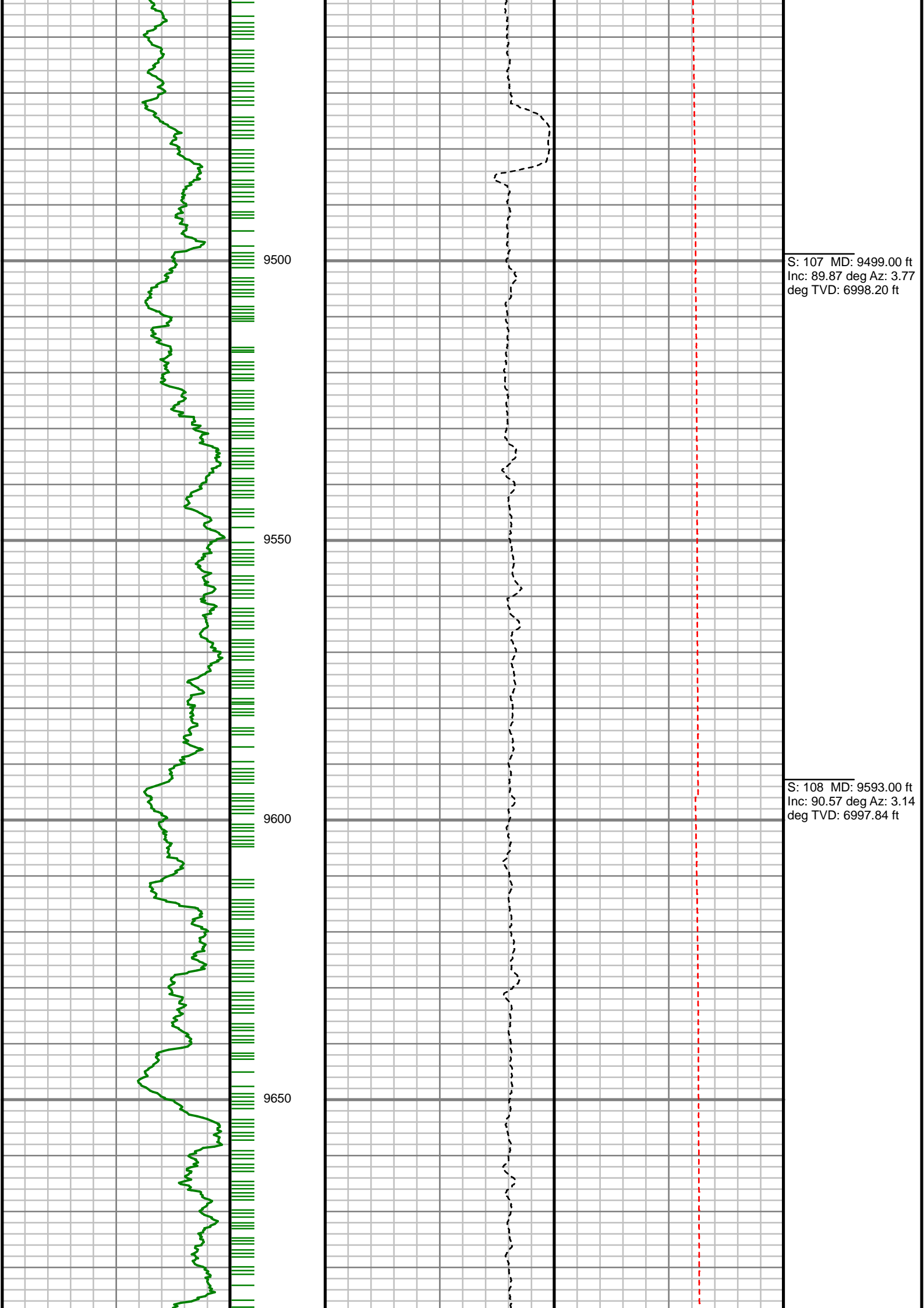


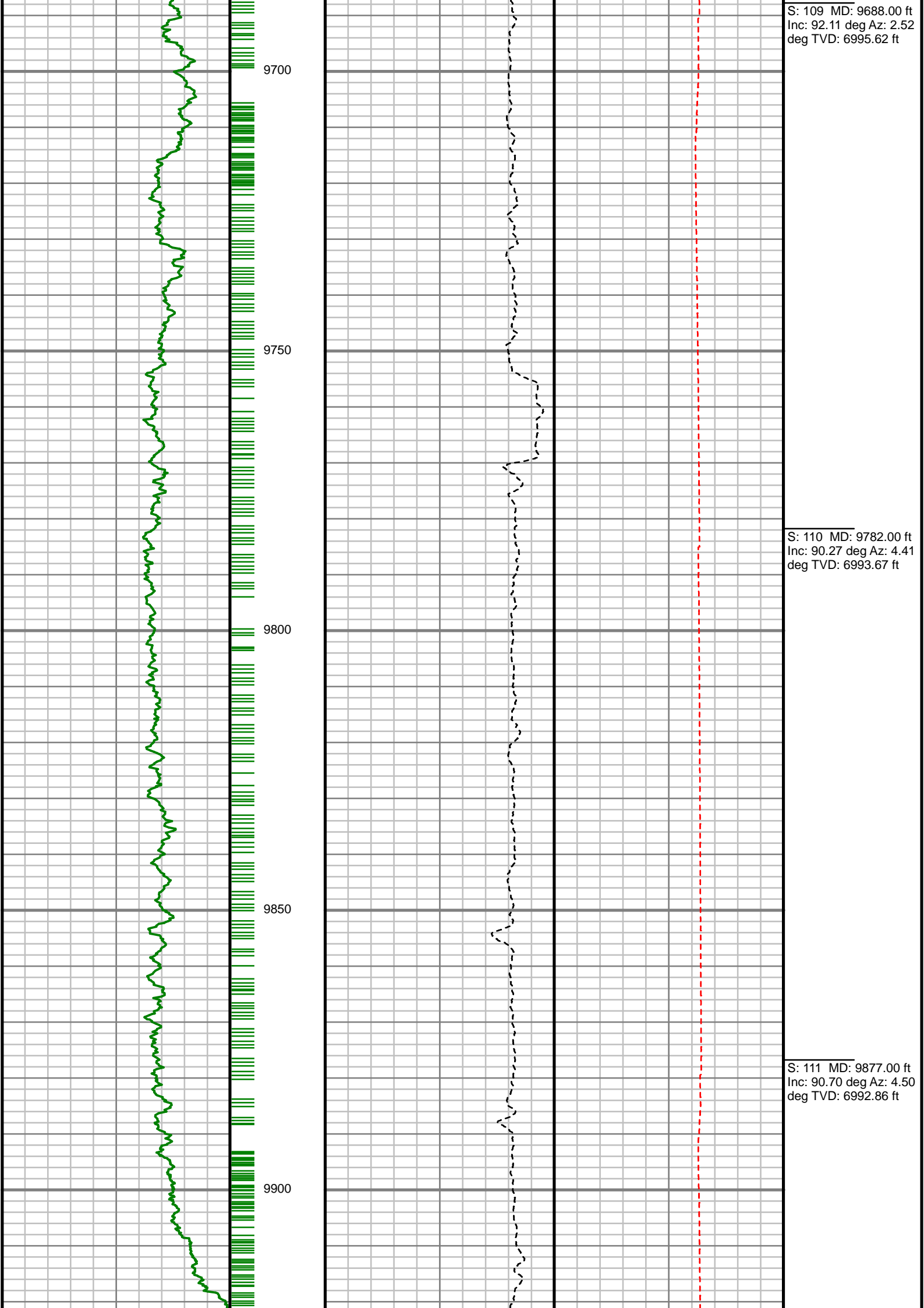
S: 102 MD: 9026.00 ft  
Inc: 90.64 deg Az: 2.80  
deg TVD: 6999.39 ft

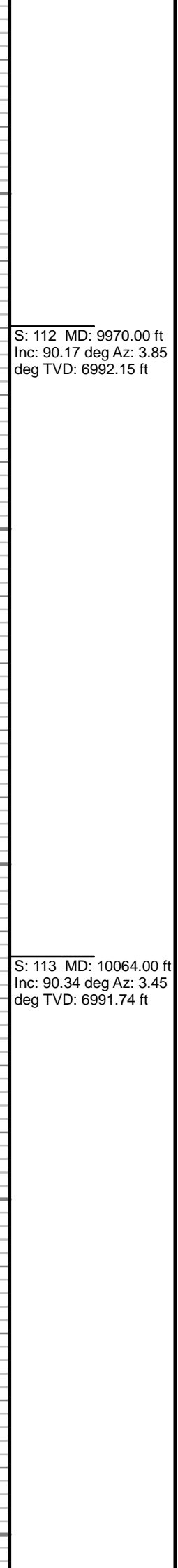
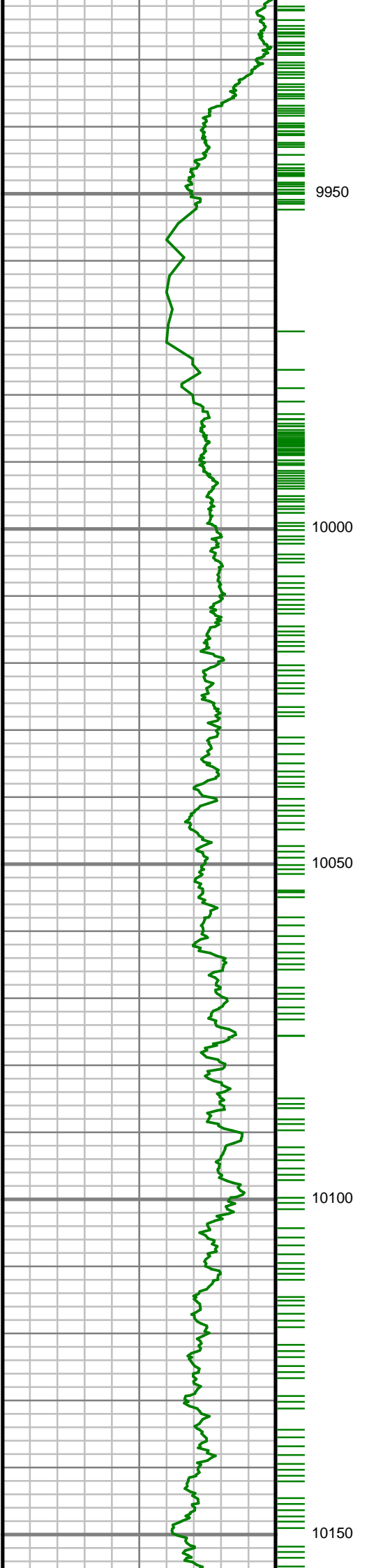
S: 103 MD: 9121.00 ft  
Inc: 91.11 deg Az: 2.41  
deg TVD: 6997.94 ft

S: 104 MD: 9215.00 ft  
Inc: 89.36 deg Az: 1.66

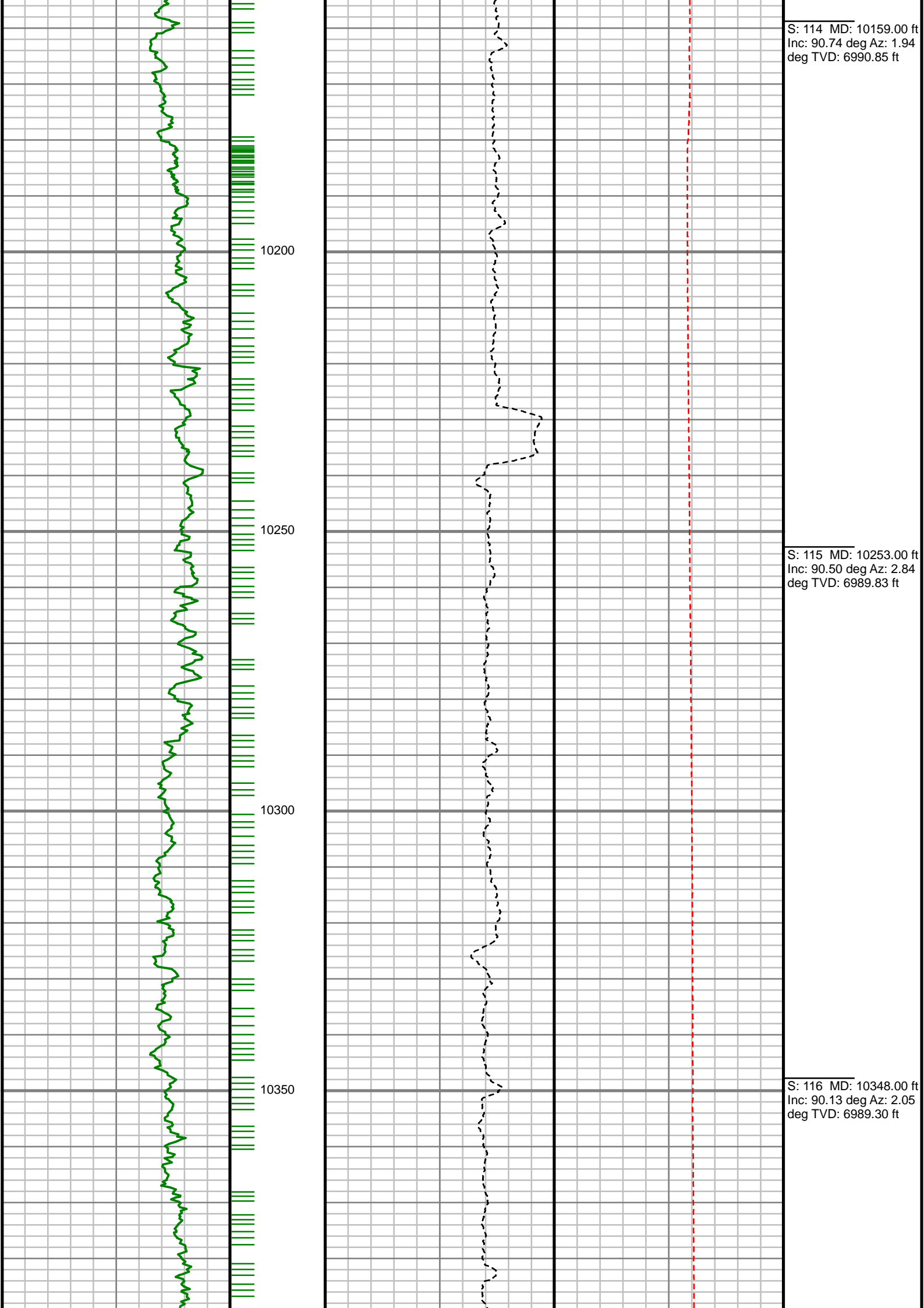


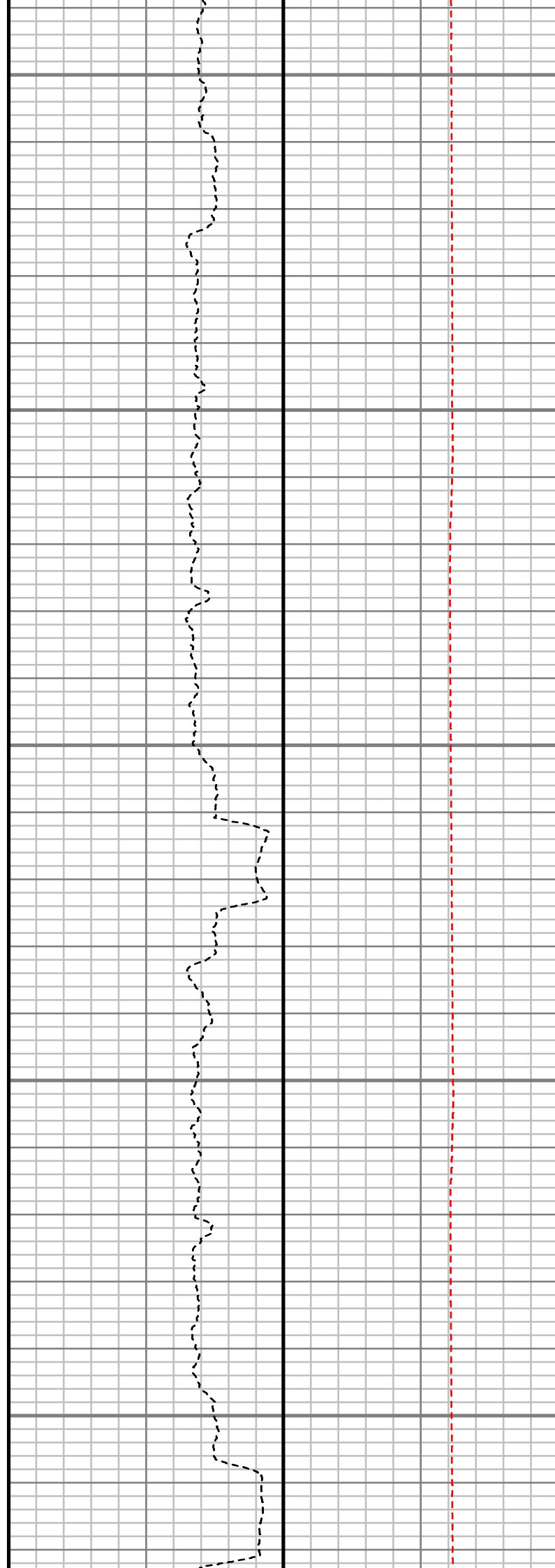
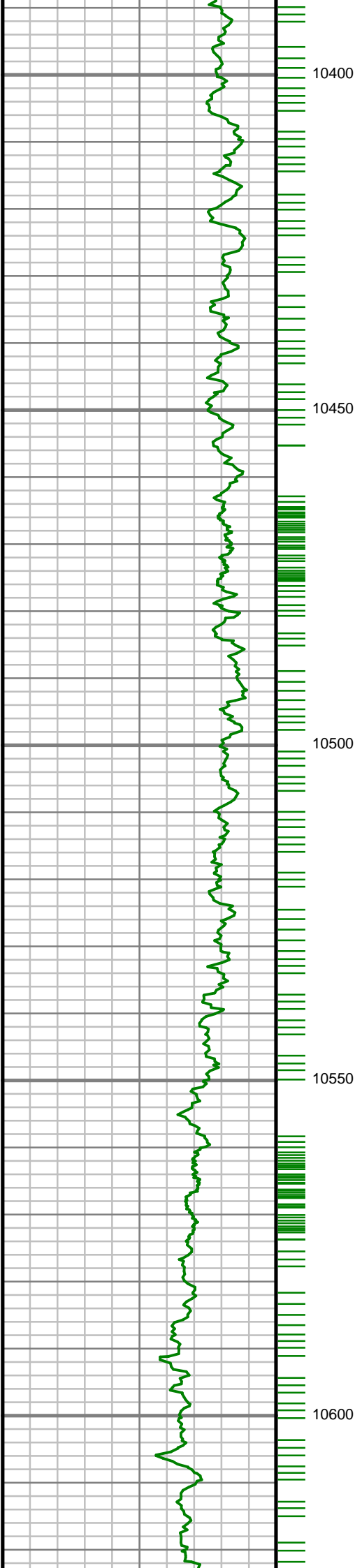






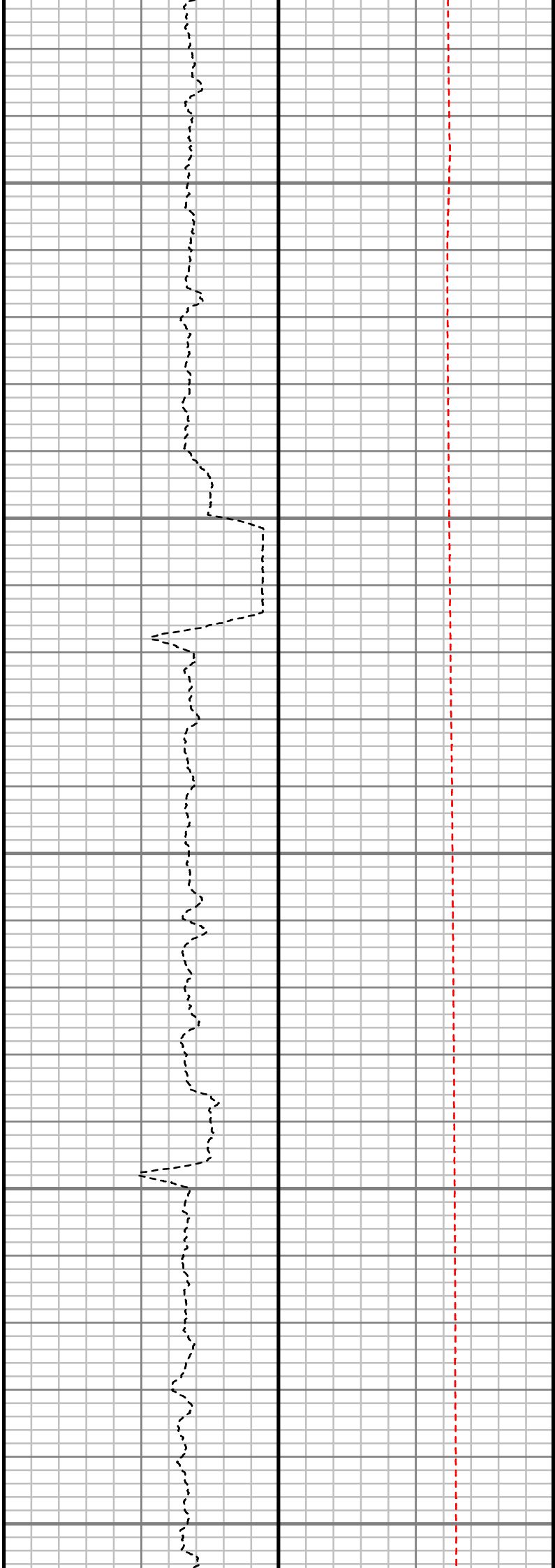
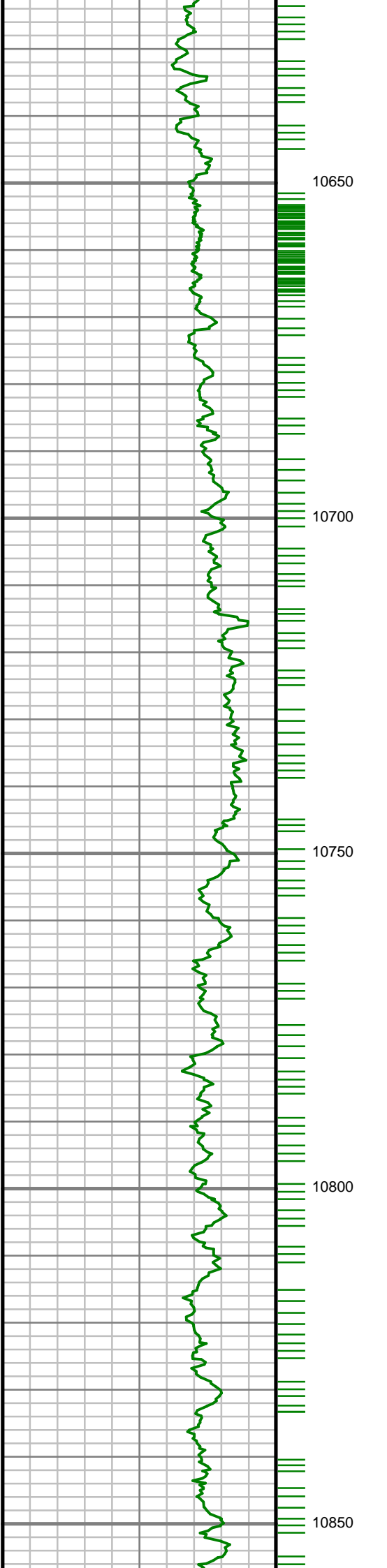






S: 117 MD: 10442.00 ft  
Inc: 90.30 deg Az: 0.36  
deg TVD: 6988.94 ft

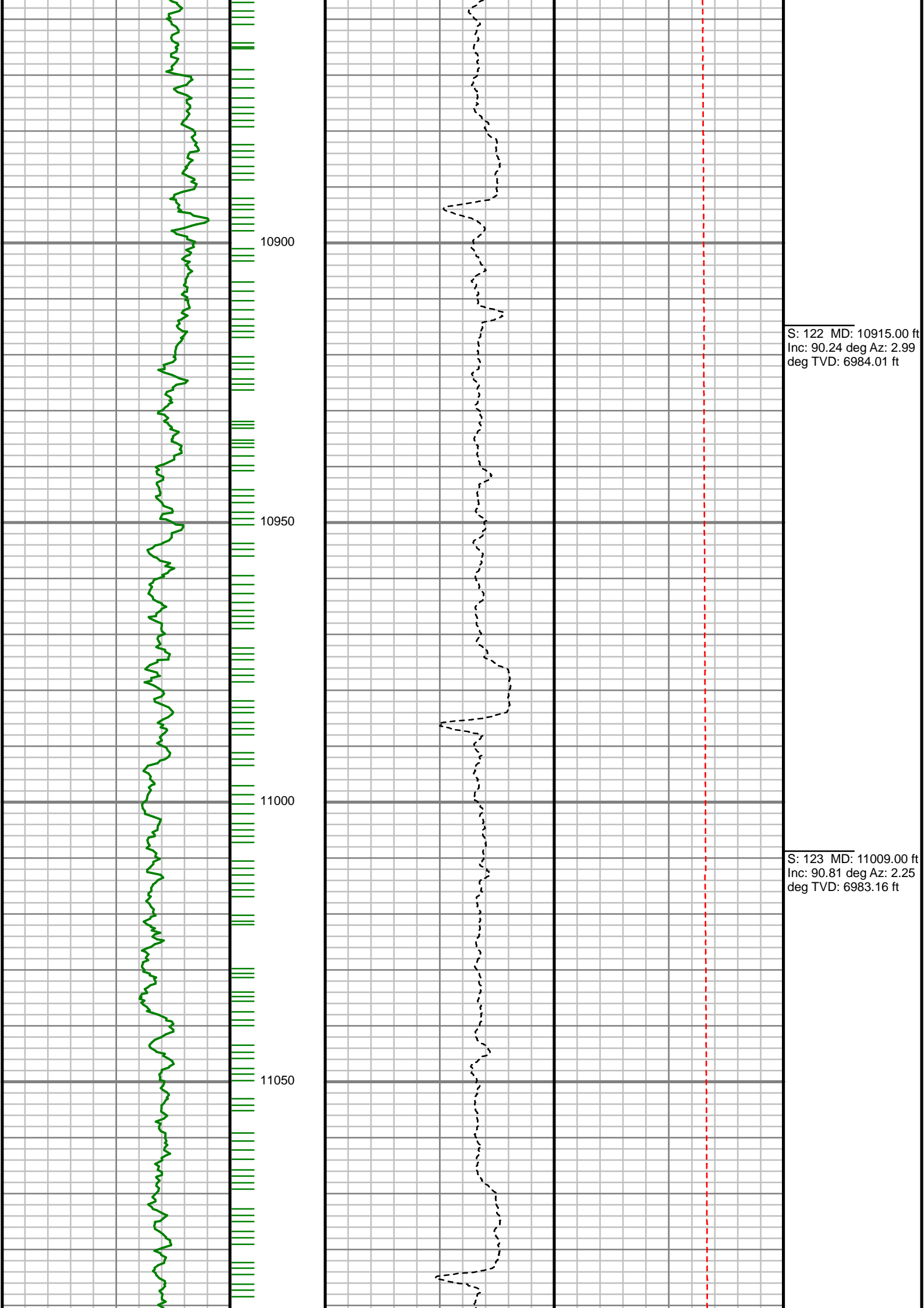
S: 118 MD: 10537.00 ft  
Inc: 91.04 deg Az: 0.35  
deg TVD: 6987.83 ft

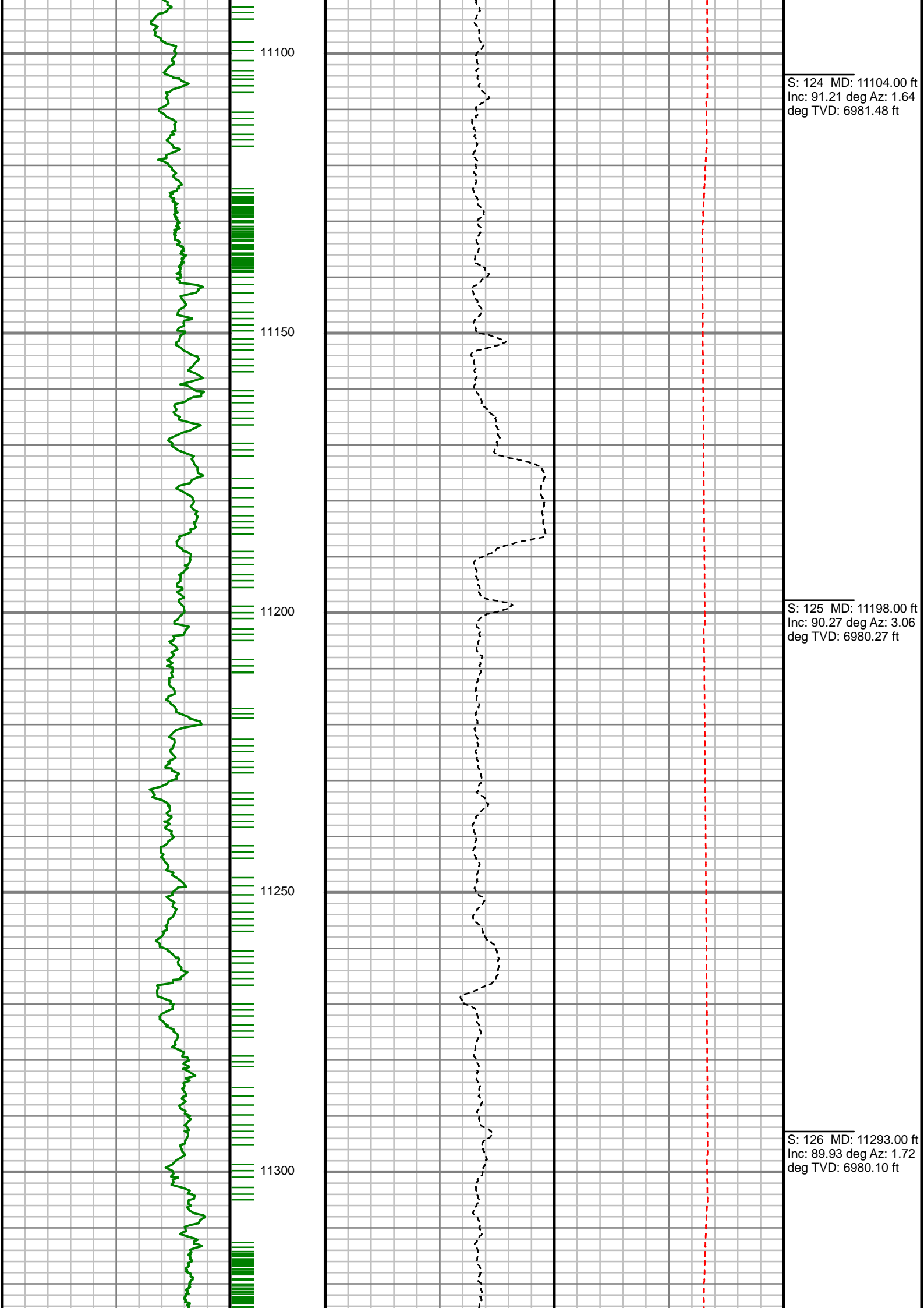


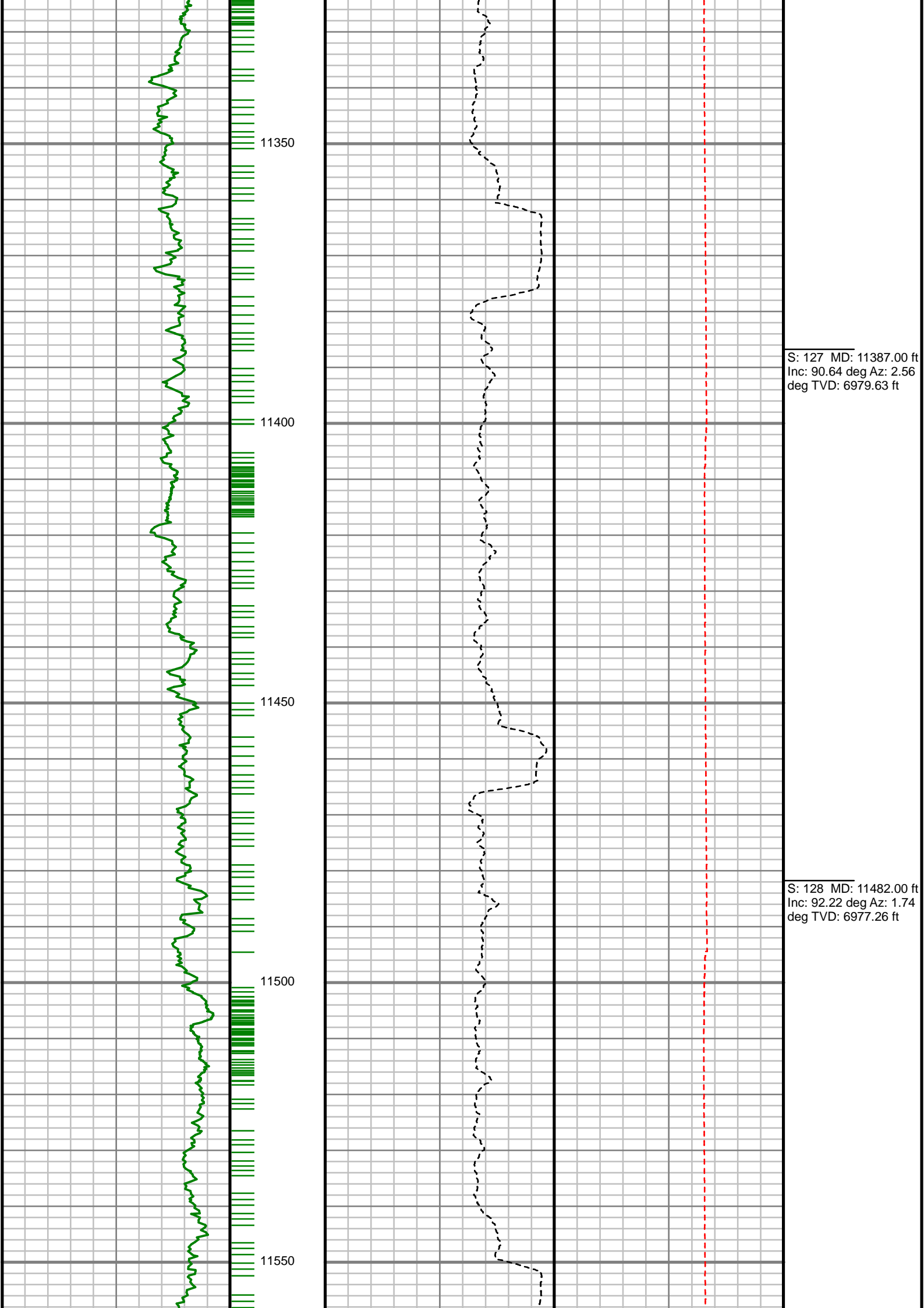
S: 119 MD: 10631.00 ft  
Inc: 90.13 deg Az: 1.20  
deg TVD: 6986.86 ft

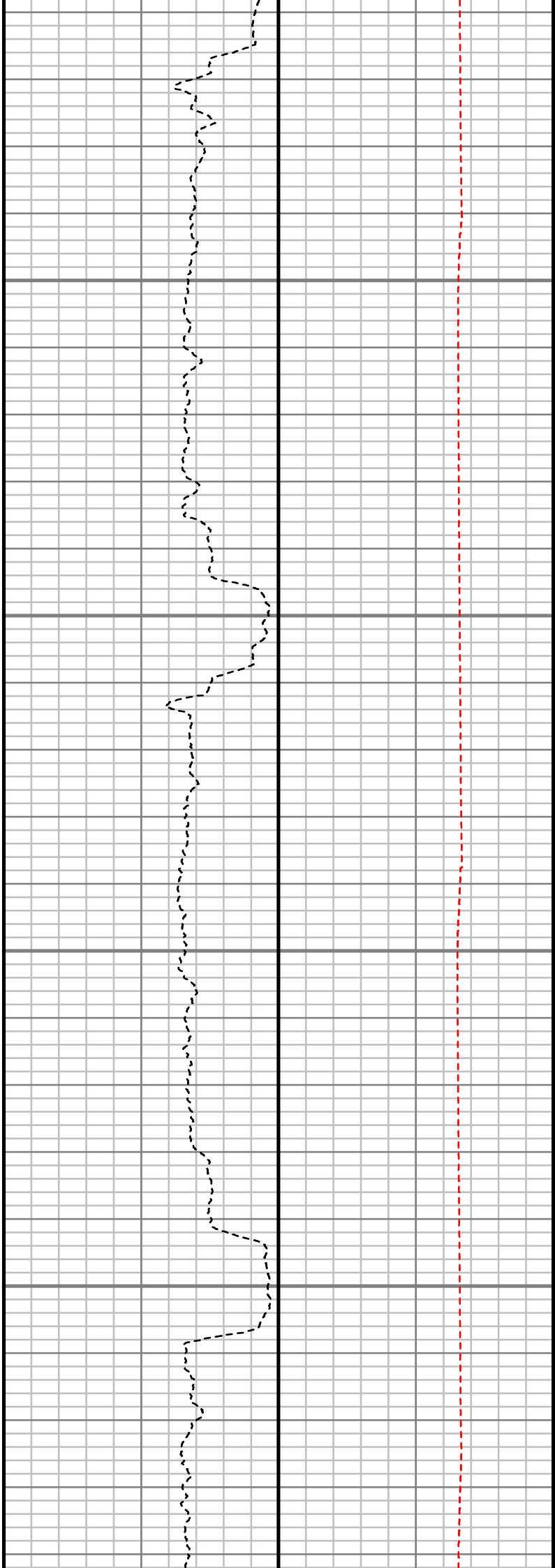
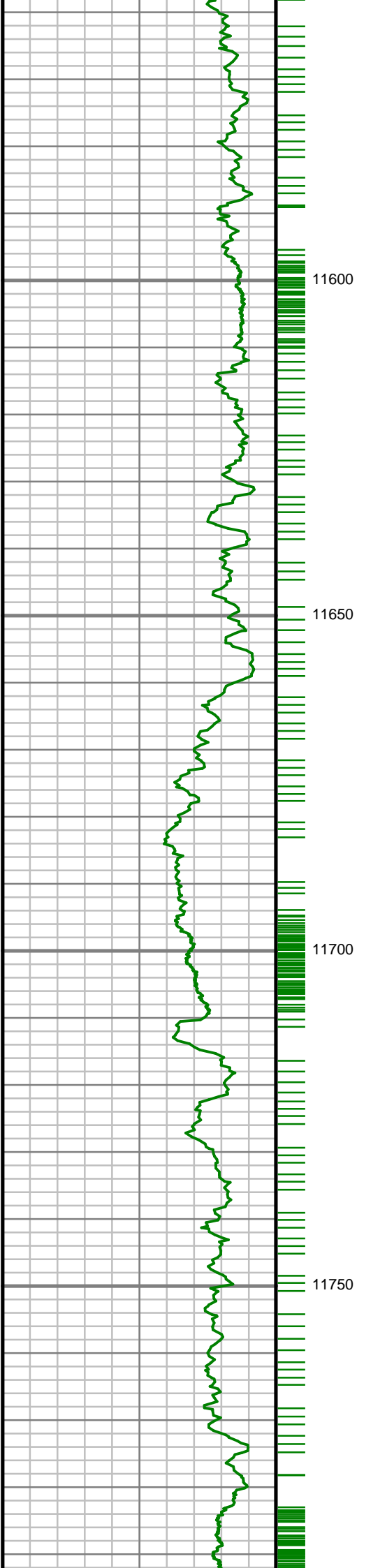
S: 120 MD: 10726.00 ft  
Inc: 90.91 deg Az: 3.76  
deg TVD: 6986.00 ft

S: 121 MD: 10820.00 ft  
Inc: 90.64 deg Az: 3.11  
deg TVD: 6984.73 ft





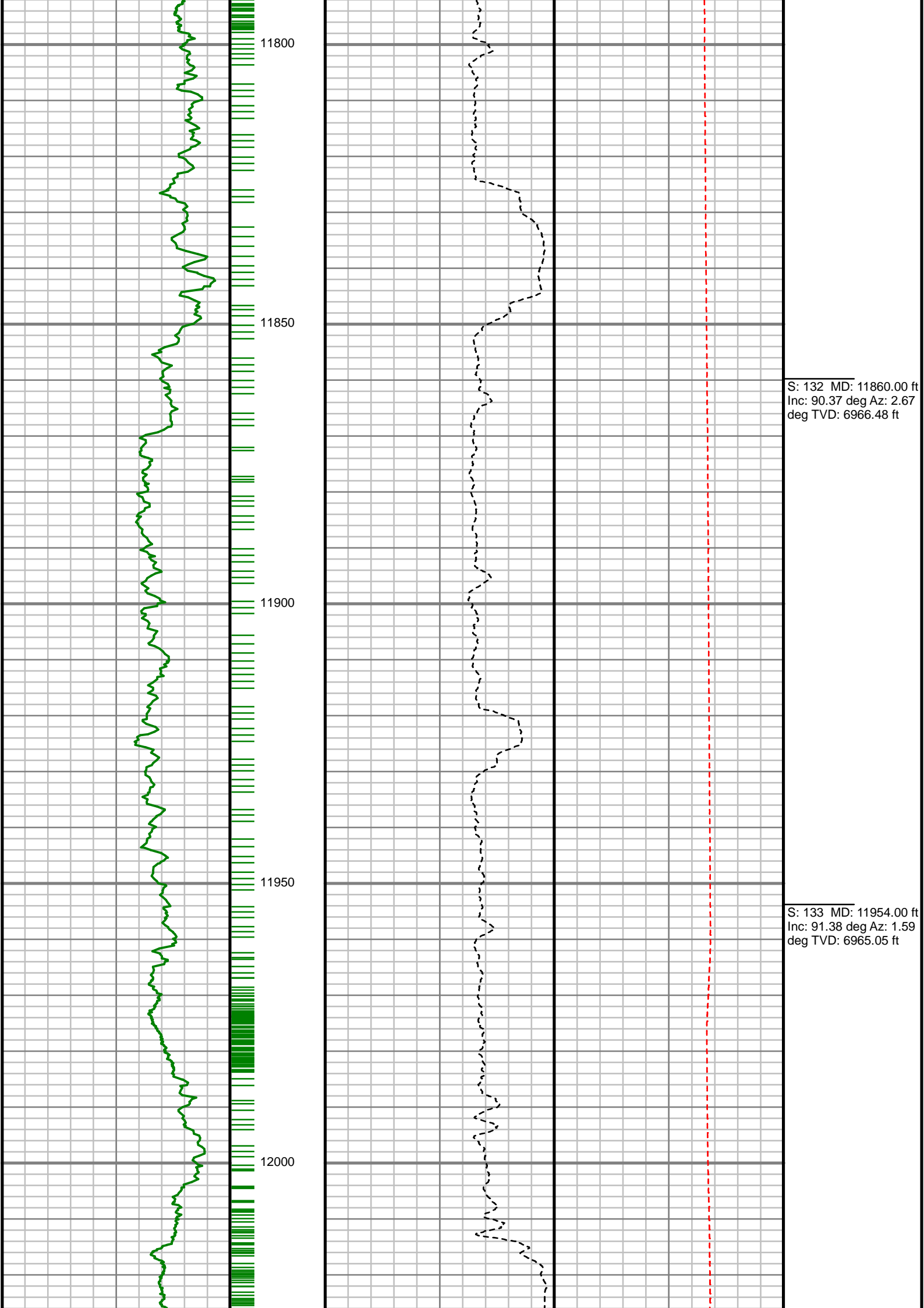




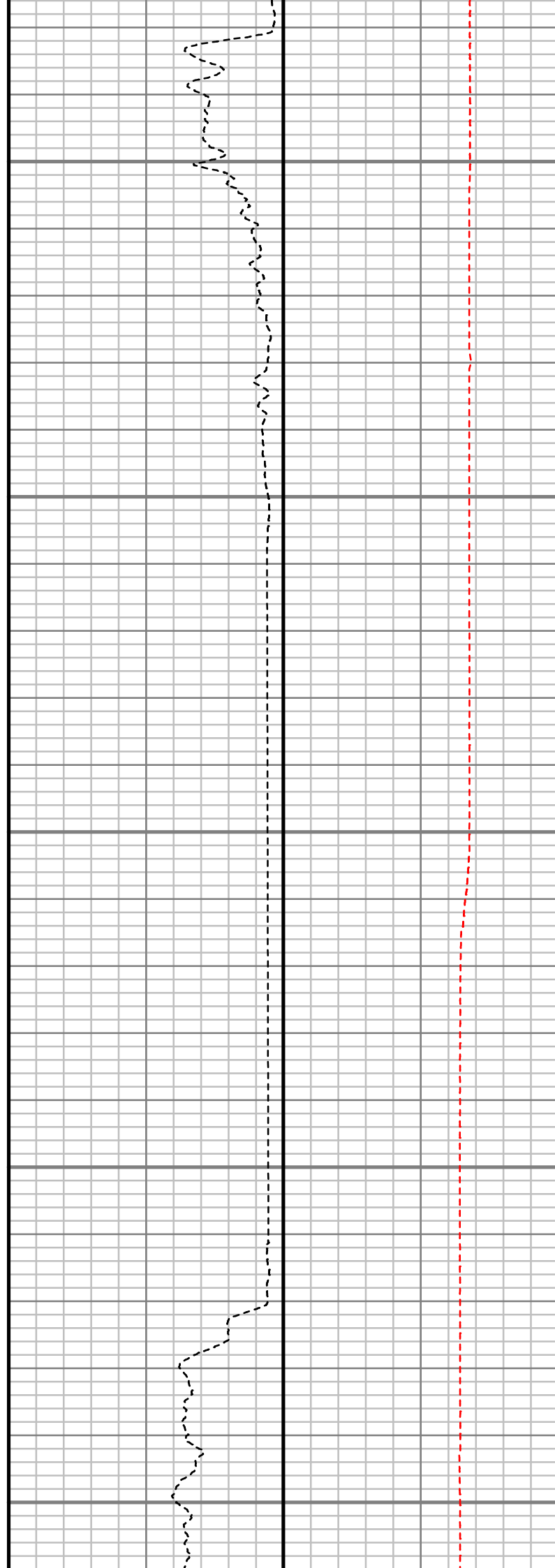
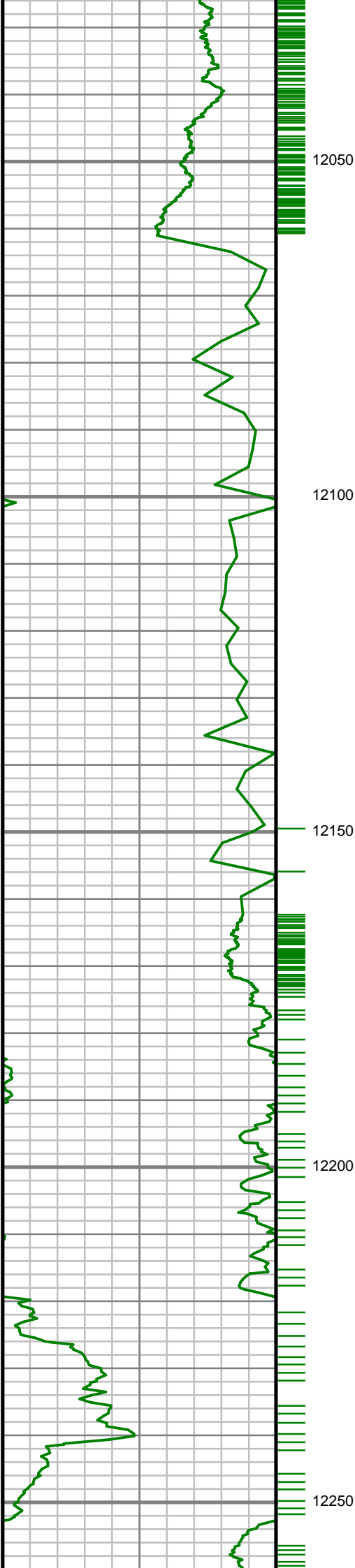
S: 129 MD: 11576.00 ft  
Inc: 90.91 deg Az: 2.84  
deg TVD: 6974.70 ft

S: 130 MD: 11671.00 ft  
Inc: 91.88 deg Az: 2.86  
deg TVD: 6972.39 ft

S: 131 MD: 11765.00 ft  
Inc: 92.46 deg Az: 3.65  
deg TVD: 6968.83 ft



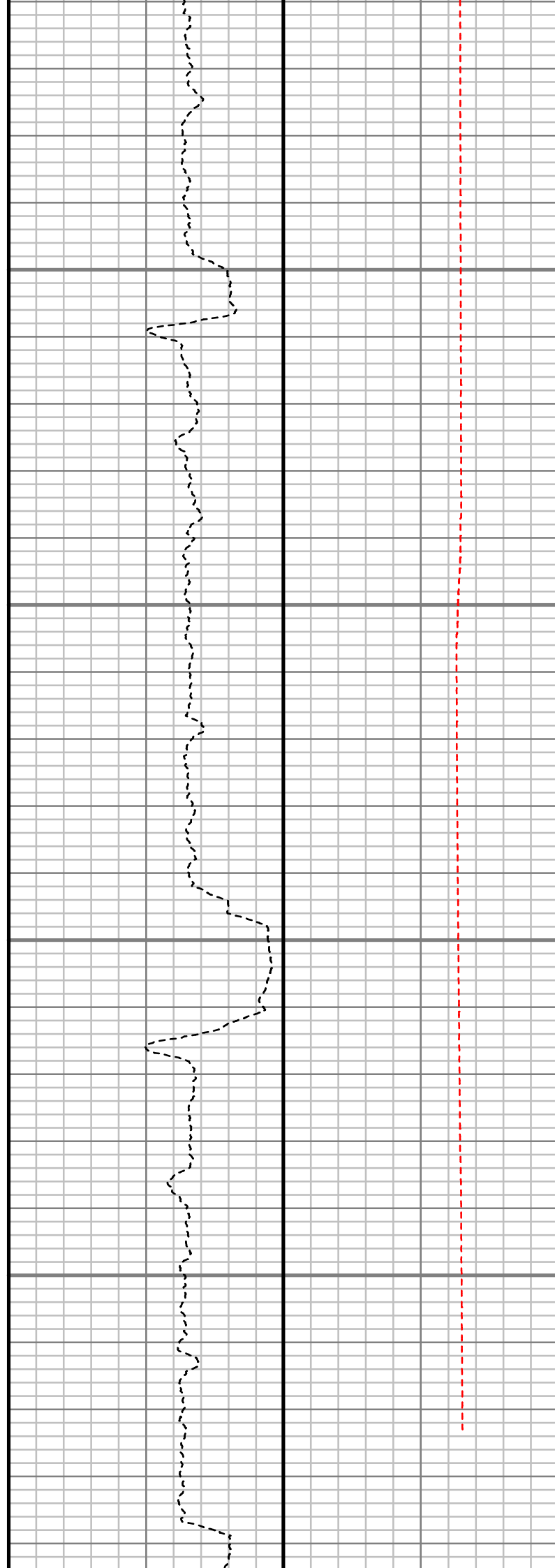
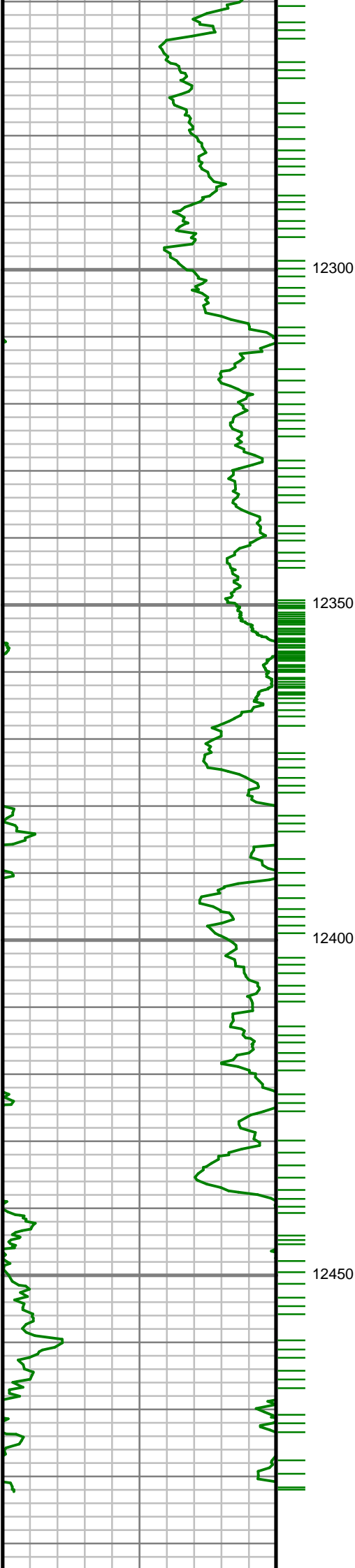




S: 134 MD: 12049.00 ft  
Inc: 89.76 deg Az: 3.15  
deg TVD: 6964.11 ft

S: 135 MD: 12143.00 ft  
Inc: 91.01 deg Az: 2.59  
deg TVD: 6963.48 ft

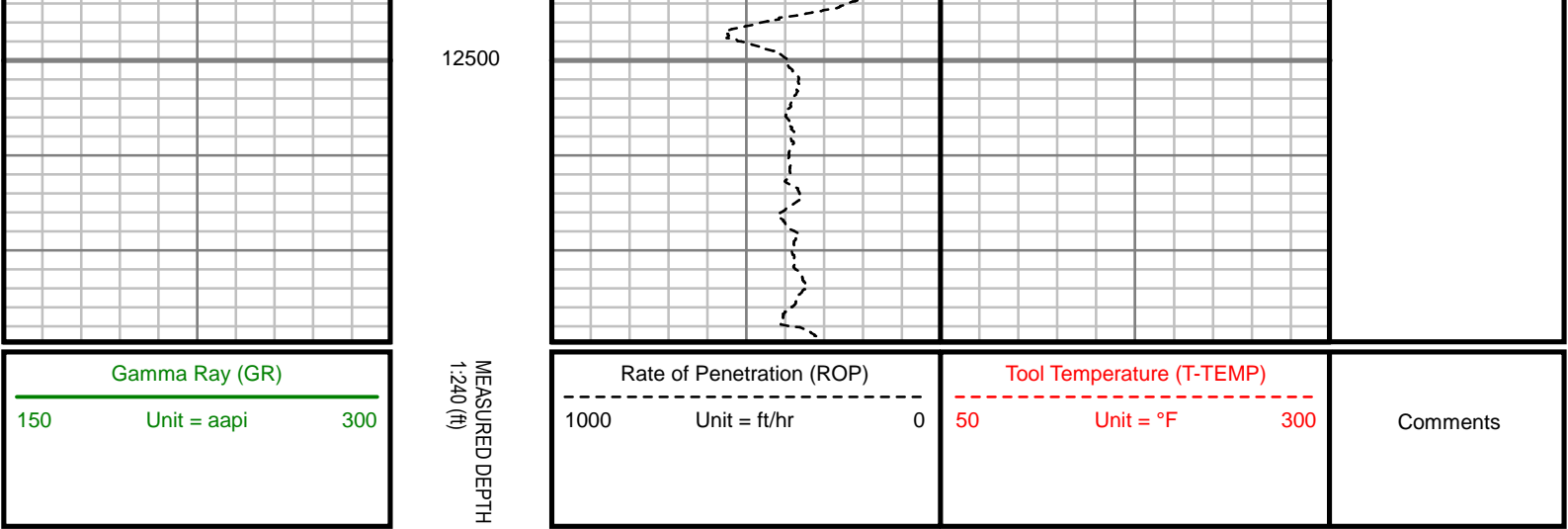
S: 136 MD: 12238.00 ft  
Inc: 90.97 deg Az: 3.43  
deg TVD: 6961.84 ft




S: 137 MD: 12332.00 ft  
Inc: 92.78 deg Az: 2.99  
deg TVD: 6958.76 ft

S: 138 MD: 12426.00 ft  
Inc: 91.81 deg Az: 2.19  
deg TVD: 6954.99 ft

S: 139 MD: 12470.00 ft  
Inc: 92.28 deg Az: 2.07  
deg TVD: 6953.42 ft



MEASURED DEPTH  
1:240 (ft)



Scientific Drilling

GAMMA RAY

5" = 100' FEET MD